ED 328 352 PS 019 374

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TITLE Texas Nutrition Education and Training Program for Federal Fiscal Year 1990. Final Evaluation Report.
INSTITUTION Texas State Dept. of Human Services, Austin.
PUB DATE 90
NOTE 102p.; For an earlier evaluation, see ED 285 897.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Coordination; *Library Services; *Nutrition Instruction; *Outreach Programs; Program Evaluation; *Resource Materials; State Programs; *Workshops
IDENTIFIERS *Texas

ABSTRACT

The U.S. Department of Agriculture's Nutrition Education and Training Program (NET) provides nutrition information and instructional resources for children and for key individuals involved in children's learning environments. The latter category includes parents, educators, and food service personnel. This document describes formal evaluation activities of the NET Program for fiscal year 1990, reports findings, and offers recommendations. Section I provides an executive summary of the evaluation activities. Section II describes the evaluation of the outreach activities of the NET Program. Section III reports on the evaluation of the Nutrition for Children workshops for educators, food service personnel, and administrators. Section IV concerns findings on the use of the "Food... Early Choices" kits in nutrition education. Section V reports on the general evaluation of the NET Program. Appendices provide evaluation instruments of the NET Program Outreach, the Nutrition for Children Workshop, and the "Food... Early Choices" kit study. (RH)

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FINAL EVALUATION REPORT

OF

TEXAS NUTRITION EDUCATION AND TRAINING PROGRAM FOR FEDERAL FISCAL YEAR 1990

TEXAS

NUTRITION EDUCATION & TRAINING

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I. EXECUTIVE SUMMARY

BACKGROUND

The Nutrition Education and Training (NET) Program is one of the U.S. Department of Agriculture (USDA) Child Nutrition Programs (CNP). The goal of the NET Program is to promote optimal health and well-being of the nation's children through improved nutrition. To achieve its goal, the NET Program provides nutrition information and instructional resources for children; and for key individuals involved in their learning environments to include parents, educators, and food service personnel.

Since the NET Program supports and enhances the USDA reimbursement food programs, the Texas NET Program is coordinated through the Contracted Services Programs Branch of the Texas Department of Human Services (TDHS), which also administers the National School Lunch Program (NSLP), the School Breakfast Program (SBP), the Special Milk Program (SMP), the Child Care Food Program (CCFP), and the Summer Food Service Program (SFSP).

Consistent with federal regulations governing the NET Program, formal evaluations of program activities are conducted annually. The aim of these evaluations is to assess training needs and to determine the effectiveness of the program in achieving its goal. The results of the evaluations are used to improve the on-going activities of the program and to adjust the program's objectives for the following years.

OUTREACH OF THE NET PROGRAM

To achieve its goal, the NET Program attempts to extend its education and training services to as many of the targeted populations as possible. NET uses several interventions to reach its target populations, including workshops that are developed and delivered by the staff of the NET Program; a lending library; development and distribution of instructional materials; presentations, exhibits, and publications; and coordination with related publicly supported programs.

Staffing levels and participation in fiscal year 1985 were used as baseline data to set goals for 1990. The overall goals for FFY 1990 were set at 1,700 participants in the NET workshops and at 5,250 for the library outreach. Information about program priorities was used in adjusting the goals for different target populations. The 1990-1991 State Plan indicated that approximately 40% of NET's efforts would be directed at public school populations and 60% at other target populations.

Findings:

Workshops:

In FFY 1990, 2,091 people participated in NET workshops, a 23% increase over the goal of 1,700 participants. However, only 453 participants from public schools were reached compared to an anticipated goal of 680 participants. Failure to meet this goal may be because one of the AAT workshops scheduled for 1990 was cancelled and another AAT workshop was scheduled six months after the beginning of FFY 1990. Shortage in NET staff caused the delay in the workshop development and scheduling. While the number of educators reached dropped from 1,143 in 1989 to 748 in 1990, the number of hours of training delivered to this target group increased 26% in 1990.

In 1990, 12,600 children were reached through public school educators; 260 children were reached through private school educators; and 1,140 children through educators in child care facilities. Thus, the number of children reached through public school educators was nine times the number of children reached through private school educators and educators in child care facilities, which more than makes up for the decrease in the number of public school educators reached in 1990.

The 1990-1991 NET State Plan sets the goal for the number of nutrition workshops conducted in 1990 at 60, and food service workshops at 50 for both 1990 and 1991. A total of 103 workshops were conducted in FFY 1990. The number of nutrition workshops conducted was 65, while the number of food service workshops was 38. Thus, NET exceeded both its goals.

NET Lending Library:

The 1990 goal for the library outreach was set at 5,250: 2,100 for public school populations, and 3,150 for other populations. The number of children reached by educators and food service personnel in public schools was 12,536; which is about six times the goal set for public school populations. The number of children reached in other child care facilities was only 334, far below the set goal. Thus, the library outreach far exceeds the goals set for 1990. However, this outreach is not proportional to the priorities set for different target populations.

Development and Distribution of Instructional Materials:

Two workshops were developed in FFY 1990; four workshops targeting food service personnel were revised. Consequently, the number of educators and food service personnel who will participate in NET workshops in 1991 is expected to increase. In addition to the workshops, a media catalog was developed and produced in 1990. The catalog includes the latest library acquisitions and annotations on their use. The catalog is expected to boost the NET library outreach in 1991.

Each workshop participant received a package that included the workshop curriculum

guide and handouts used during the workshop. Thus, 2,091 packages were distributed to the workshop participants in 1990. Selected materials were mailed to participants' work facilities to enable them to apply the knowledge and skills they gained from the workshops on actual life and classroom settings.

Presentations, Exhibits, and Publications:

The Texas State Plan sets the goal for the number of fairs held by NET in 1990 at five. NET held 10 exhibits and fairs in 1990, thus exceeding the set goal. In addition, five presentations were delivered to food service personnel, educators, and children; and seven articles were published.

Coordination with Related Publicly Supported Programs:

The Texas Resource Council was established as a result of NET's efforts in June 1990 to be a major statewide cooperative linkage among food and nutrition policy stakeholder. Moreover, the NET Coordinator became the liaison to the Texas Nutrition Council (TNC), which meets bi-annually to promote nutrition education.

The Texas School Food Service Association (TSFSA) initiative was established early in 1990 with the NET library collection designated as a major clearinghouse for all certification courses offered to school food service personnel. Additionally, Extension Services through the TNC has promoted the use of the NET collection to all their county extension agents.

In 1990, coordination with the Texas Education Agency (TEA) resulted in NET's reviewing the Texas Essential Elements of the high school Health Education curricula, specifically with the nutrition component for grades 9-12. These elements will be implemented in Texas high schools in 1991-95.

NET also worked with the Texas Department of Mental Health Mental Retardation (TDMHMR), the American Cancer Society Public Education Committee, and the Youth Opportunities Unlimited (YOU) summer program for disadvantaged high school students.

Recommendations:

1. Since some workshops were conducted less frequently and with fewer participants than the minimum required, NET needs to evaluate the procedures used in scheduling the workshops and the workshops in general.

2. Because the goal set for the number of public school participants in NET workshops was not met in 1990, NET should renew its efforts in approving, developing, and conducting AAT workshops.

3. Delay in scheduling a workshop and cancelling another workshop adversely affected the number of public school participants. A two-year plan for workshop scheduling

should be prepared and adjusted yearly, and workshops should be advertised statewide.

4. Since a flux in library circulation resulted from coordination with TSFSA, and since similar surges in NET's outreach resulted from coordination with TEA, continual contact and coordination with professional associations and others agencies interested in training their members are needed.

5. Reviews and presentations of new audiovisual material acquisitions in schools, professional meetings, and professional journals are recommended to increase the library outreach and NET's outreach in general.

6. Since library usage by target groups in child care facilities did not reach the goal set for 1990, NET needs to publicize the library services at professional associations, meetings, and facilities.

7. Since very few parents were reached through NET's interventions in FFY 1990 and previous years, NET should develop and deliver presentations and hold fairs at annual PTA meetings and school meetings all over Texas.

8. NET needs to renew interest in professional writing to stress NET's role as a leading program and as an authority in nutrition education.

9. NET actively pursued coordination efforts with other publicly supported programs. Because this coordination is expected to positively affect the NET Program outreach, it is recommended that these efforts continue in the following years.

EVALUATION OF THE NUTRITION FOR CHILDREN WORKSHOP

This study was conducted to determine how well the Nutrition for Children workshop helped participants master nutrition-related knowledge and attitude learning objectives; and how much the participants were satisfied with the training they received during the workshop.

Developed during FFY 1990, the Nutrition for Children workshop is an Advanced Academic Training (AAT) workshop. The purpose of the workshop was to provide information on using the "Dietary Guidelines for Americans" as a basis for nutrition education in the classroom. The target workshop participants were grade K-3 educators in public or non-profit private schools which participate in the USDA child nutrition programs. The participants received six credit hours for attending the workshop.

Method:

Eleven AAT Nutrition for Children workshops were conducted in 1990. Two hundred twenty-seven educators and food service personnel participated in these workshops. The majority of participants (92.5%) were educators, 90% of which worked in public schools.

A pretest, a post test, and a follow-up test were developed to measure the participants' mastery of factual and operational knowledge presented during the workshop. Test scores were used to determine the gains in performance for each participant over time. To assure that the tests were representative of workshop content, their validity was checked by matching test items to the specification table for the workshop curriculum. Test reliability was checked using coefficient alpha. Statistical significance of observed gains was evaluated using repeated measure analysis of variance.

An attitude scale was developed to measure participants' attitudes toward nutrition and its relationship to the well-being of K-3 children. Content validity of the scale was assessed by checking items against the table of specifications for the workshop curriculum. Scale reliability was assessed using Cronbach's coefficient alpha.

To diagnose relative strengths and weaknesses of the workshop, criterion references were preset and actual performance of the participants was checked against each criterion. This way, it was possible to identify areas where the workshop curriculum needs improvement. A standardized training report was used to measure participants' satisfaction with the workshop in general, and their suggestions for improving the workshop.

Results:

Workshop participants' performance improved as measured by the test scores. At the close of the workshop, 19.6% of the participants exceeded the criterion for acceptable performance on the knowledge tests. Improvement in knowledge test performance was statistically significant at the .01 level. The curriculum especially helped participants learn nutritional snacks for young children, number of meat servings for school-aged children, and regulations for borrowing from the NET lending library.

T-test results indicated that participants' performance on the attitude scale after the workshop significantly improved over their performance before the workshop. More participants scored above the criterion value after the workshop than before it.

Workshop participants gave the workshop high ratings on every dimension measured namely, objectives, presentation, materials, content, and interactions. Participants regarded the instructional materials as the most useful part of the workshop. Participants suggested less lecturing, more hands-on activities, providing more child nutrition information than adult nutrition information, more classroom applications, more snack ideas, more handouts, sample menus, and more workshop time, in the order listed.

Recommendations:

1. Post test scores and follow-up test scores indicated that participants consistently had difficulty answering certain items. These items should be revised or replaced so that the test more accurately measures participants' performance. On the other hand, the related curriculum areas should be revised to make the topics related to these items clearer, and to incorporate the participants' suggestions and comments regarding these areas as much as feasible.

2. NET needs to improve its method of developing and delivering new or revised workshops. These workshops should be piloted and revised before scheduling them on a large scale. Using control group designs is also beneficial in accurately assessing the actual gains in knowledge and attitudes achieved as a result of workshop training.

3. NET needs to develop more valid and reliable test items to assess the effects of the workshop training on participants' knowledge, attitudes, and behaviors. This task requires extensive efforts and consumes time in test-piloting and revisions. Consequently, NET should consider developing a pool of good test items on various nutrition education topics and coordinating its effort with similar public programs.

4. It is not feasible to change the behavior of the workshop participants through a single workshop intervention. Efforts must be directed to plan and schedule the workshop in series to enforce the effect of one workshop in following workshops in the series. It is possible also to plan follow-up interventions such as consultations and visits to the participants' work facilities. If the participants were aware that sites may be visited a few months after the workshop, chances are greater that there would be some noticeable changes in behavior due to obligation and commitment to perform actions suggested during their participation in the workshops.

5. Workshop participants had positive attitudes which can eventually lead to behavior changes. It is also possible for behavior changes to lead to attitude changes. The combination of expressed behavioral intention and positive attitudes can have even greater impact in mediating behavior changes. If participants have set guidelines to follow after the workshops, they may be able to observe changes in their attitudes and behaviors. Thus, providing teachers with a formal plan and obtaining their agreement to follow it may be one way to increase the impact of the workshops.

6. Importance of developing and delivering AAT workshops to educators of young children cannot be stressed enough. Educators influence children's attitudes and beliefs on nutrition education considerably. Since unlearning is much harder than learning, nutrition education needs to be provided at an early age to help children acquire good eating habits. Children who are taught to make healthy food choices will grow into adults who make healthy food choices.

USE OF DISTRIBUTED FOOD... EARLY CHOICES KITS IN NUTRITION EDUCATION

This study was conducted to: 1) assess the value of distributing the Food... Early Choices kit to the work facilities of workshop participants, and 2) measure the effectiveness of the workshop in training the participants on methods of using the kit to educate children in their facilities. Thus, the study answers the following questions:

1. To what extent were the distributed kits used by the workshop participants to teach nutrition to the children in their facilities?

2. In the participants' opinions, how effective were the kits in teaching nutrition to the children?

3. What were the problems the participants encountered as they were using the kits?

4. What suggestions did the participants have to improve the use of the kit in the actual instructional settings?

Method:

A series of 28 Food Early Choices workshops were conducted between March and May 1989. A sample was drawn from the participants in these workshops to ensure that those who were included in the sample had enough time to use the Food... Early Choices kit after participating in the workshop. An opinion survey was developed and mailed to the sample of participants. Fifty five workshop participants responded to the survey. Percentages of educators, food service personnel, and administrators who responded to the opinion survey were approximately proportional to their percentages in the total population of workshop participants.

The number and percentage of respondents to each item on the survey were calculated. One-way chi squares were conducted to test the significance of deviations between the observed frequencies and the expected frequencies of variables such as the effectiveness of the kit's components.

Two-way chi square tests of significance were conducted to assess the effect of variables--such as children's age and respondents' experience--on responses to certain items on the survey--such as the number of times the kit was used and suggested modifications on the way the kit components were used.

Results:

Seventy-five percent of the respondents' facilities owned one or two copies of the kit. About 9% of the respondents said that they did not have any copy of the kit in their facilities. If we considered this number of respondents and the number of workshop participants who did not

respond to the survey for this same reason, then a sizable number of the distributed kits were not available for the workshop participants to use.

When the respondents were asked if they had ever used the kit with the children under their care, 89.1% of the participants said they did. Only four participants said they did not use the kit, most likely because it was not available to them. About 78.2% of the participants said that they used the English version. Six respondents (10.9%) said that they used both the English and the Spanish versions.

All the kit's components were used a considerable number of times. The number of times each component was used ranged from 148 times to 351 times. The most frequently used components were Chef Combo followed by the Picture Cards, followed by the Learning Activity Cards.

The chi square statistic was conducted for each kit component to find out if the difference in the number of respondents who selected each rating category (i.e., very effective, effective, and not effective) was significant. The chi square test was significant with respect to each component. Significantly more respondents rated the kit's components as either very effective or effective in teaching nutrition to the children under their care.

Over seventy-six percent of the respondents did not feel a need for modifying the methods suggested for using the kit's components. The main modifications made were 1) using the components to enrich the classroom activities, and 2) using the Chef Combo puppet as an authority figure that instructs children on good food choices.

Over ninety-two percent of the respondents said that they did not encounter any problems while using the kit. When the participants were asked if they felt that they needed additional skills or knowledge to use the kit, almost all the respondents (51 out of 55) said they did not. Two respondents said that they needed more puppetry skills to use Chef Combo more effectively.

Respondents to the survey suggested distributing of more English and Spanish kits, using Chef Combo to introduce new foods, laminating the Growing-up poster, including arts and crafts activities, including classroom recipes, including more food games, providing more puppetry instructions, and using correct Spanish food names in the Spanish version of the kit, in the order listed.

Recommendations:

1. Since a sizable number of workshop participants indicated that the kit was not available for them to use, NET needs to send more copies of the kit to the participants' facilities. In the meantime, participants ought to be notified when these copies are sent to the manager of the facility so they can look for it.

2. Even though some of the kit's components such as Chef Combo and the Learning Activity Cards were used relatively more than other components (e.g., the record); all components were used frequently and effectively. These results suggest that all

components are needed to realize the objectives of using the kit.

3. Including more games, classroom recipes, and arts and crafts--as suggested by the respondents--would increase the effectiveness of the kit in nutrition education. These activities are suitable for children and would actively involve them in the learning process. Since learning is an active process, more learning is expected to result from including these activities.

4. The popularity of the Chef Combo puppet and the interest the puppet created point to a need to include more puppets in the kit. Chef Combo may have a helper, or a wife and kids. These extra puppets would provide more opportunities for the children to enact varied roles that would enrich classroom activities and discussions.

5. The need for more puppetry instruction was cited as one of the problems that faced the respondents as they were using the kit. Since puppets are effective learning tools for young children and since there is a need to include more puppets in the kit, the Food... Early Choices workshop should enhance the puppetry skills of its participants.

6. As suggested by the respondents, laminating the Growing-up poster and using correct Spanish terminology would improve the quality of the kit as an instructional tool.

GENERAL EVALUATION OF THE NET PROGRAM

The purpose of this study was to assess the overall program performance for the FFY 1990. The results of the evaluations conducted during the year were combined to produce an index of the program effectiveness. Key questions answered in this general evaluation of the program were:

1. Relative to its resources, was the overall effect of the Texas NET Program in 1990 positive, negative, or nonsignificant?

2. Did the program promote positive changes in child nutrition-related knowledge and attitudes, and consequently behaviors of significant numbers of individuals in NET's priority populations?

3. What were the strengths and weaknesses of overall program performance during FFY 1990?

Program Resources:

NET Program funding increased slightly over 1989, an increase that brought the 1990 budget only 7.3% over the program's budget for FFY 1985. This increase does not reflect the inflation rate or the expansion in the program's activities during the past five years. In addition, the USDA's funding formula for the NET Program is based on the number of school children in the state. In Texas, the number of children attending public schools grew from 2,884,000 in 1985

to 3,278,397 in 1990, i.e. over 13.7%.

At the same time, organizational and budget constraints have generated a reduction in NET staffing from nine full-time equivalent positions in 1985 to approximately eight full-time equivalent positions in 1990. The main reduction was reflected in the Workshop Coordinator (Program Specialist) position, which was reduced from full-time to half-time; and in the number of contracted workshop instructors. It may be noticed also that due to the low budget and to organizational constraints staff benefits are not competitive. This resulted in high turnover in the staff and the inability to immediately fill vacant positions. For example, the Evaluator's position remained unfilled for about three months, and the Workshop Coordinator position was vacant for about four months.

Program Activities:

The program's activities continued to expand in most areas. Workshop activities were affected, however, by the reduction in staffing. The number of workshops conducted dropped from 165 workshops in 1985 to 103 workshops in 1990, a reduction of more than 37.6%. And even though two workshops were developed in 1990, only one was scheduled during the second half of this year.

Acquisition and circulation of library materials increased considerably over 1985 and 1989, perhaps due to the relative stability and growth of the resources allocated to the library. In 1990, library acquisitions were more than four times those of 1989. Monthly circulation of library items were more than four times the items circulated in 1985, and 22.4% more than those circulated in 1989. Number of borrowers and catalogs distributed were slightly less in 1990 than in 1989.

Material acquisitions and distribution as well as other aspects of program activities such as the mini-grants and evaluation studies fluctuated slightly during the past six years and stabilized during 1989 and 1990. The only noticeable improvement in the program activities in 1990, beside the library acquisitions and circulation, was the program outreach. In 1990, the NET Program outreach was more than four times its outreach in 1985, and 10.4% more than its outreach in 1989.

Considering the program's activities relative to its resources, one must conclude that the program is administered efficiently and that it is realizing its goals.

Meta-Analysis of Program Outcomes:

Results of evaluations of specific NET activities were integrated to develop an index and analysis of overall effectiveness of program performance in 1990. The vote counting method for program meta-analysis was applied to integrate results of evaluations conducted during FFY 1990.

Results:

Thirty-three evaluations were conducted to estimate the effectiveness of the main aspects of the program. Twenty-nine of these evaluations were positive, one was nonsignificant, and only three outcomes were negative. The negative results were mostly due to failure of the program to prioritize its outreach to the different target populations.

Although one of the library evaluation outcomes suggested a need for continued attention to promoting its services to educators in child care facilities, the lending library collection attracted more patrons and circulated more nutrition and food service management materials during 1990 than in any previous year.

In 1990, the NET Program also made large strides toward improving coordination with other public sector programs and agencies engaged in child nutrition activities such as the TEA and the TDMHMR, and toward publicizing its services state wide. Such efforts are expected to result in increased outreach of the NET Program in subsequent years.

During the past five years, NET workshops were found to be a reliable means for improving child nutrition-related knowledge and attitudes of educators and food service personnel, in schools and child care facilities. Likewise, evaluation of the Nutrition for Children workshop indicated that this workshop was effective in promoting desired changes in child nutrition-related knowledge and attitudes of workshop participants. Participants also expressed satisfaction with the training received during the workshop, which would positively influence their behavior that is related to their acquired knowledge and attitudes.

The outcomes of all analyses conducted to assess frequency and effectiveness of using the Food... Early Choices kit were positive. The majority of the respondents used components of the kit to instruct children in nutrition education. Significantly more respondents rated the components of the kit as very effective in teaching nutrition education. On the contrary, significantly less respondents stated that they needed skills or faced problems as they were using the kit. These outcomes suggests the positive effect of material distribution on achieving the goals of the NET Program.

Recommendations:

1. Stability in program staffing and administration is needed to expand the program services and to maintain the quality of these services. In order to achieve this stability, serious consideration must be given to the program budget. Since all program services are offered free of charge to nonprofit organizations, a charge may be procured from organizations that provide nutrition related services to children for profit, such as private schools and child care centers. In addition, other sources of funding such as grants and donations may be given serious consideration.

2. Since priorities are set for reaching different target populations in the NET state plan, an action plan must follow to specify suitable means of implementation. The program staff must systematically identify, implement, and evaluate procedures periodically to assess the effectiveness of these procedures in reaching the targeted priority

populations, and to improve them if necessary to achieve the stated goals.

3. In addition to an action plan for the entire NET Program, yearly action plans must be outlined for the two major program interventions, namely, the workshops and the lending library. Workshop development and scheduling must be planned well ahead of time to avoid cancellation of advertised services.

4. Since the last needs assessment study was conducted in 1984, there is a need to conduct a major needs assessment study to identify the NET services required for various target populations, including direct services to children and their parents. The study would provide directions in setting goals and priorities.

II. OUTREACH OF THE NET PROGRAM

INTRODUCTION

Background:

The Nutrition Education and Training (NET) Program is one of the Child Nutrition Programs (CNP) of the United States Department of Agriculture (USDA). NET is a nationwide program established in 1977 in an amendment to the Child Nutrition Act (public law 95-166). The program is administered by the USDA through grants to state agencies. The Texas Department of Human Services (DHS) became active in NET in 1979, receiving a grant from the Texas Education Agency (TEA) to expand the public school based program in Texas into child care facilities. In 1982, when federal funding for the program had been reduced from $26 million to $5 million nationwide, TEA ceased to participate and DHS assumed responsibility for all NET Program activities in Texas.

Since NET supports and enhances effects of the USDA reimbursement food programs, the program is coordinated through DHS's Contracted Services division which also administers the National School Lunch Program (NSLP), the School Breakfast Program (SBP), the Special Milk Program (SMP), the Child Care Food Program (CCFP), and the Summer Food Service Program (SFSP).

NET's Goal:

The goal of the NET Program is to promote optimal health and well-being of the nation's children through improved nutrition. To achieve its goal, the NET Program provides nutrition information and instructional resources for children and for key individuals in their learning environments. Parents or guardians, care givers and teachers, and food service personnel who prepare meals for the children are considered individuals who affect the nutritional status of Texas children.

Four goal areas were identified in NET's 1990-1991 State Plan. They are to:

1. assure that children have opportunities to learn about and to practice good eating habits in schools and child care facilities participating in USDA's Child Nutrition Programs, by providing training and materials for children, teachers, and food service personnel;

2. facilitate integration of effective nutrition learning activities -- including use of the cafeteria as a learning laboratory -- into instruction at all grade levels from preschool through high school, by providing information and instruction to help teachers improve their child-nutrition-related knowledge, attitudes, and behaviors;

3. assure that nutritious, appealing and safe meals and snacks are served in

schools and child care facilities by providing information and training to help food service personnel improve their child-nutrition-related knowledge, attitudes, and behaviors; and,

4. provide support for nutrition education and food service management practices in schools and child care facilities participating in the reimbursement programs, by developing workshop curricula materials, keeping the lending library collection current, acquiring and distributing materials, and coordinating services with other public-sector agencies interested in promoting children's health and well-being through improved nutritional status.

To achieve its goal, the NET Program attempts to extend its education and training services to as many of the targeted populations as possible. Participation data are used as a determinant of program continuation. States granted NET Program funds are required to submit an annual report--the FNS 42--describing the numbers of children, educators, and food service personnel receiving nutrition education and training during the fiscal year. The report must be completed within a specified interval after the close of the federal fiscal year in order for the state to receive the program grant for the succeeding year.

In order to assure that the Texas NET program reaches as many of the targeted population as possible, annual participation goals are set for each of the program's major activities and for each of its target populations. Goals are based on current priorities, current staffing, and prior participation figures. Actual participation is monitored and compared against the goal for the year. Information about goal attainment then is used in establishing objectives and making plans for the following year.

Goals for NET's Outreach:

Data about staffing levels and participation in fiscal year 1985 were used as a baseline in setting goals for 1990. Using 1985 as baseline is appropriate because all of the designated NET staff positions were filled during 1985 and evaluation studies demonstrated that the program was both challenging and successful that year.

During 1985, there were approximately 6 full-time equivalent NET staff positions in support of the workshops and 2.5 positions in support of the library. The staff-to-participant ratios during 1985 were 1:400 for NET's workshops and 1:1500 for the NET lending library.

In 1990, the workshop and library full-time equivalent positions were as follows:

Workshops:

0.50	Workshop Coordinator
2.00	Workshop Instructors
0.50	Automation Support
1.25	Clerks
4.25	Total

Library:

0.75	Program Specialist
1.00	Librarian
1.00	Material Evaluator (Workshop Instructors)
0.50	Automation Support
0.25	Clerk
3.50	Total

Thus, there were approximate 4.25 full time equivalent staff positions in support of the workshops and 3.5 staff positions for the library. By substituting these figures in the staff-to-participant ratio overall goals were set for FFY 1990 at 1700 for participation in NET workshops and 5250 for the library outreach.

Information about program priorities was used in adjusting the goals for different target groups. The 1990-1991 State Plan indicated that approximately 40% of NET's efforts would be directed at public school populations and 60% at other target populations. Accordingly, the goal for workshop participants was set at 680 for public school populations and 1020 for other populations. The goal for library circulation was set at 2100 for public school populations and 3150 for other populations.

NET's Outreach Interventions:

NET's outreach to its target populations is achieved through multiple interventions which include:

- o workshops that are developed and conducted by NET staff
- o circulation of NET's library collection
- o development, revision, and circulation of curricula and instructional materials on nutrition education and food service management
- o presentations, exhibits, and publications on nutrition education, food service management, and NET in general

- coordination with related publicly supported programs being carried out within the state

Following are NET's efforts to reach Texas children through each intervention and the outcomes of these efforts.

WORKSHOPS

Introduction:

Conducting nutrition education workshops to prevent disease and enhance the well-being of the State's children is a major activity of the NET Program. The program supports and enhances effects of reimbursement elements of the USDA Child Nutrition Programs. By providing information and resources to instruct teachers, child care providers, and food service personnel in the fundamentals of nutrition and how to convey this information so as to motivate children to make healthy food choices, the NET Program helps children accept the nutritious meals and snacks served in school cafeterias and child care settings. The expected outcomes are improved nutritional status for children and reduced food waste in school and child care food service programs.

Since 1985, NET developed a total of 22 workshops. Workshop topics include nutrition education, physical fitness, food service management, menu planning, and sanitation. Registered dietitians conduct the workshops throughout Texas and provide free materials to eligible participants. Participants receive certificates verifying hours of attendance.

In 1986, interagency agreements and curriculum modifications were negotiated to obtain TEA's approval for two of the NET Program's workshops to be made available to public school teachers for advanced academic training (AAT). Two additional workshops were approved by TEA for AAT in 1988. Since Public school teachers are required to earn AAT credits to maintain their teaching certification in Texas, NET's AAT workshops have proved to be very helpful in increasing participation in the NET Program.

Method of Evaluating the Workshops:

Continuous evaluation of NET's workshops resulted in continuous revisions and improvements of the content of these workshops, as well as in the methods and materials used in their delivery. The performance of the workshop participants is evaluated using knowledge tests and attitude scales. In some instances, the behavior of the participants is evaluated as well. For example, the menus planned by food service personnel were evaluated before and after their participation in the Menu Planning and Kitchen Economy workshop to find out if their compliance with the CCFP regulations increased as a result of their participation.

Data on the effectiveness of a workshop as a whole are collected from the workshop participants using a standard training report form (DHS form 4316). In addition, the performance of the workshop instructors is observed and evaluated periodically using a workshop instructor evaluation form.

Data on the number of workshop participants, their functions, their work facilities, and their ethnic backgrounds are collected on each workshop, for administrative purposes and to evaluate workshop participation. A registration form is used to collect these data. A copy of the registration form is included in Appendix A of this report.

Workshop Outreach:

Workshops Conducted:

The NET State Plan for 1990-1991 states that the goal for the number of nutrition workshops conducted in 1990 is 60, and for the food service workshops is 50 for both 1990 and 1991. A total of 103 workshops were conducted in FFY 1990. The number of nutrition workshops conducted was 65, and the number of food service workshops was 38. Thus, NET exceeded the goals set for 1990. Table (1) contains the titles and durations of the workshops conducted during FFY 1990 as well as the number and percent of the workshop participants.

Table (1) Number and Percent of Participants in NET's Workshops in 1990

Workshop	Workshop Duration In Hours	Number Of Times Conducted	Total Number Of Participants	Percent Of Participants
Planning Nutritious Snacks	3.0	25	487	23.3
Off To A Good Start	6.0	11	282	13.5
AAT/Nutrition For Children	6.0	13	227	10.9
Menu Planning & Kitchen Economy	4.0	8	208	9.9
Food Early Choices	2.0	7	171	8.2
Nutrition & Physical Fitness	6.0	8	160	7.7
Sanitation & Health	4.5	7	147	7.0
Health Habits	1.5	6	128	6.1
Understanding USDA Child Nutrition	5.5	2	85	4.1
Nutrition & The Young Child	6.0	7	69	3.3
Kitchen Math & Food Purchasing	6.0	2	38	1.8
Leader Nutrients/NET Lending Library	4.0	2	19	0.9
AAT/Nutrition & The Young Child	6.0	1	16	0.8
Menu Planning System/Recipe Ideas	2.0	1	15	0.7
Nutrition For Children	6.0	1	15	0.7
Key Factors In Menu Planning	1.0	1	10	0.5
Advanced Menu Planning	6.0	1	9	0.4
Introduction To NET	1.0	1	5	0.2
Total	76.5	103	2,091	100

Table (1) shows that the durations of the workshops conducted ranged from one hour to 6 hours. The number of times each workshop was conducted varied also from once to 25 times, which indicates that some workshops were more in demand than others. Participants in the last three workshops listed in Table (1) were less than the required number of participants, i.e. 15 participants. There is no apparent relationship between the content or duration of the workshops and the workshops' appeal to the participants.

Further information is needed to find out the variables that make NET's workshops more appealing to the targeted populations in order to stress these variables in the following years.

Workshop Participants:

Comparisons between workshop participation in FFYs 1989 and 1990 indicate that the total number of workshops conducted in 1990 was about 15% less than that of 1989. However, the number of workshop participants in 1990 (2,091) slightly increased than the number of participants in 1989 (2,032), which indicates that participation in the individual workshops increased in 1990, and that the workshops were administered more efficiently.

It may be remembered that the workshop participation goal for 1990 was set at 1700 participants. Thus, actual participation in NET's workshops exceeded the goal by 391 participants, which represents about a 23% increase over the expected participation.

Participants' Facilities:

Since NET's goal was to direct 40% of its efforts to public school populations and 60% to other targeted populations the work facilities and the functions of the workshop participants were studied. Figure (1) represents the different facilities of the workshop participants in 1989 and 1990.

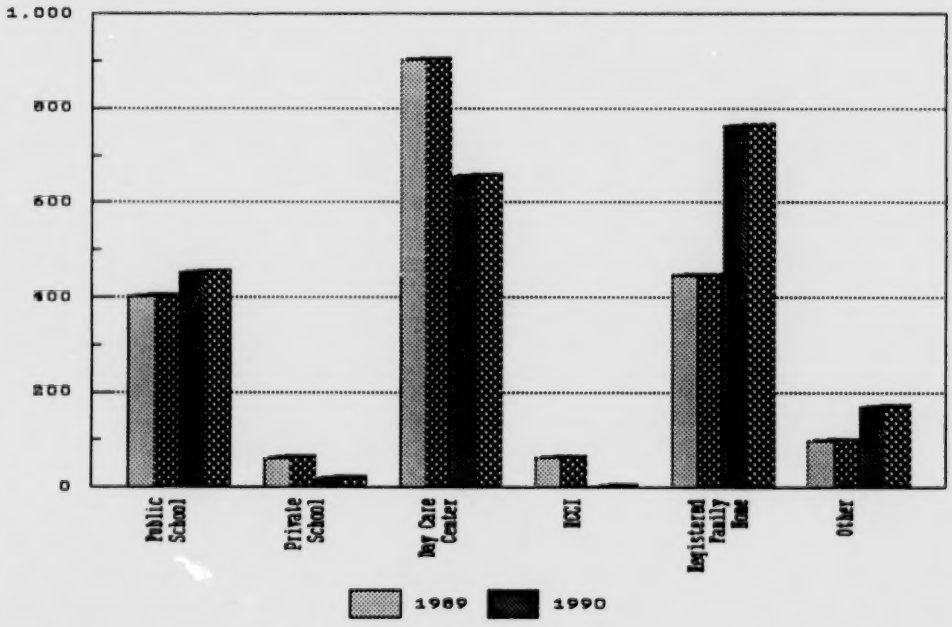

Figure 1 Facilities of Workshop Participants in 1989 and 1990

Figure (1) indicates that the 1989 general outreach trend prevailed through 1990. Participants from day care centers and registered family homes were reached more than participants from public or private schools. A total of 453 participants from public schools were reached in 1990 compared to an anticipated goal of 680 participants. Failure to meet the goal may be due to the fact that one of the AAT workshops scheduled for 1990, i.e. Nutrition and Life Sciences, was not scheduled; while the other AAT workshop, Nutrition for Children, was completed and scheduled six months after the beginning of FFY 1990. Shortage in NET staff caused the delay in the workshop development and scheduling.

Participants' Functions:

Figure (2) shows the different functions the participants performed in their work facilities.

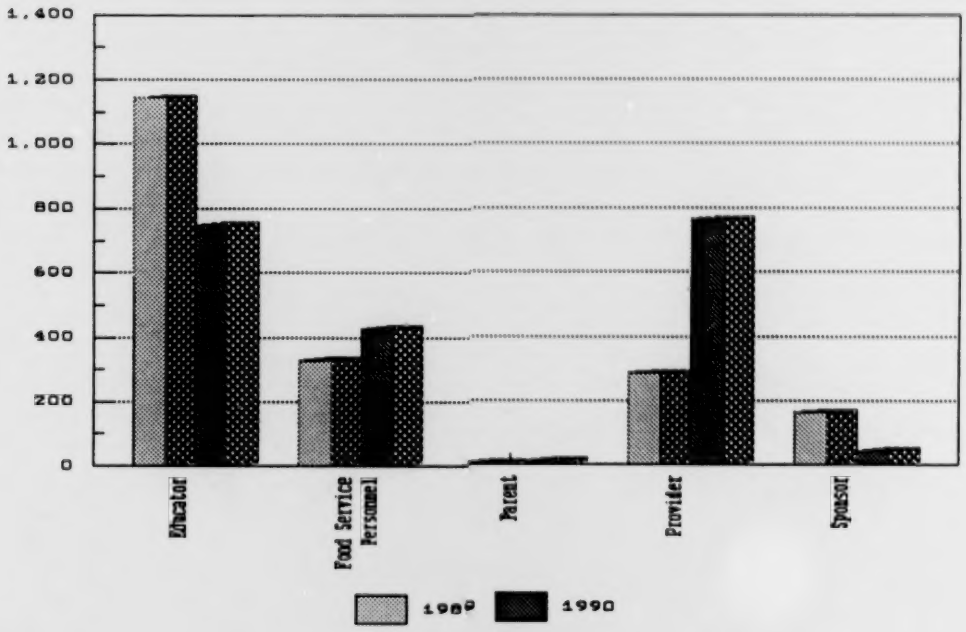

Figure 2 Function of Workshop Participants in 1989 and 1990

It is apparent from figure (2) that the number of educators reached dropped from 1,173 educators in 1989 to 748 educators in 1990. This data is consistent with the assumed adverse effect caused by the delay in developing and scheduling two AAT workshops in 1990. However, the number of food service personnel, another priority target group showed a 29.8% increase in 1990 over 1989, and the overall goal for reaching other target populations showed a 22% increase over the set goal of 1020 workshop participants.

Hours of Training:

Figure (3) illustrates the number of hours of training delivered to target groups (i.e., educators, food service personnel, parents, providers, and sponsors).

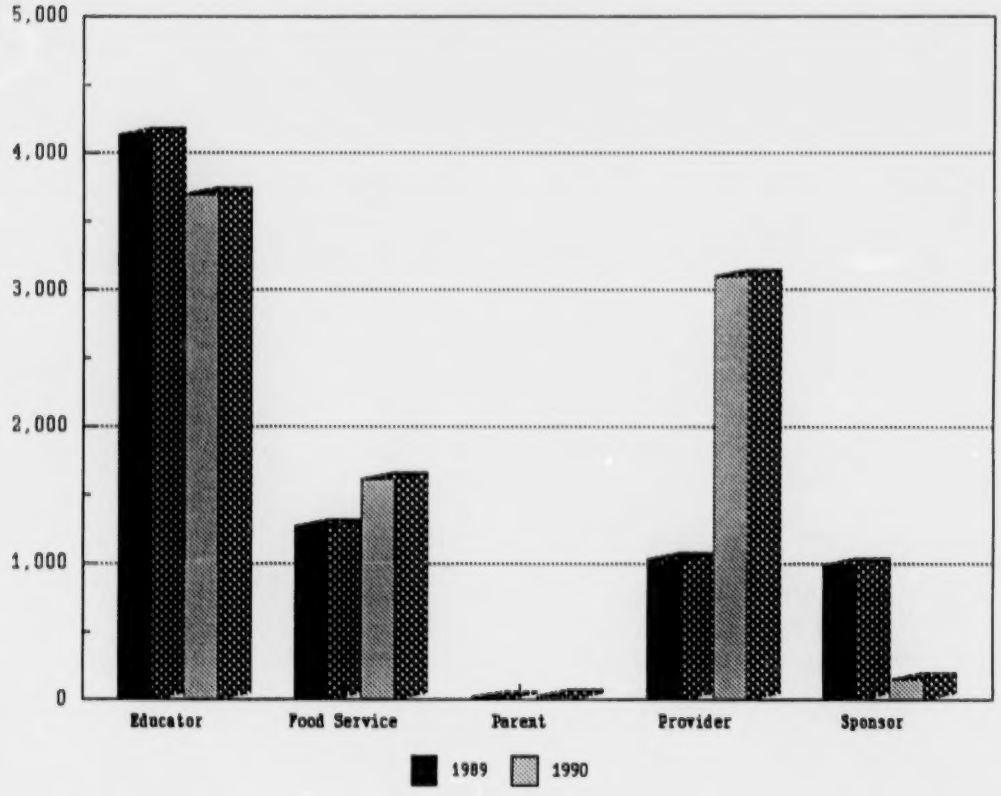

Figure 3 Training Hours Delivered in 1989 and 1990

Comparisons between the hours of training delivered to the different target groups indicate that the general trend of 1989 prevailed in 1990, namely, public school educators received more training than food service personnel in both years. It may be observed, however, that while the number of educators reached dropped from 1143 in 1989 to 748 in 1990 the number of hours of training delivered to this target group increased 26% in 1990 over 1989. The total hours of training delivered in 1990 increased 12.5% over 1989, indicating that individual participants received more training in 1990 than in 1989.

Children Reached Through Workshop Participants:

Previous years' data on the number of children reached through workshop participants are not available. In 1990, 12,600 children were reached through public school educators, 260 children were reached through private school educators, and 1,140 children were reached through educators in child care facilities. Thus, the number of children reached through public school educators was nine times the number of children reached through private school educators and educators in child care facilities, which more than makes up for the decrease in the number of public school educators reached in 1990.

NET LENDING LIBRARY

Introduction:

The NET lending library is one of the key elements in the Texas State Plan for promoting children's health and well-being through improved nutrition. Circulating over 3000 up-to-date printed and audiovisual materials on nutrition education, the library provides educators, food service personnel, parents, and others who are interested in child nutrition with ready access to materials to teach children about nutrition and help food service personnel plan nutritious meals.

In addition, use of the lending library by other state agencies and public programs has at least two more advantages: 1) it increases the NET Program's outreach, and 2) it reduces the probability of duplicate development or acquisition of materials on nutrition education. Thus, improved coordination of the NET library services assures more efficient use of federal and state resources allocated to support child nutrition and health.

The NET collection is housed in the library facilities at the headquarters offices of the TDHS in Austin, Texas. Circulation is managed by a full time NET Program librarian. Requests to borrow items from the collection are made by mailing an order form or by calling the librarian. Materials are delivered and returned by post or parcel service for borrowers who are located outside Austin, while those who are located in Austin are required to check-out and return materials in person. Borrowers are strongly urged to insure items at full value when returning them to the library so that the risk of loss in transit is minimized. However, other than the cost of return postage and insurance use of the lending library is free of charge.

To encourage use of the collection, a catalog of printed materials and another for audio-visual materials were compiled in 1984. Since the collection is in constant evaluation, updating and growth, a new audio-visual catalog was compiled and produced in 1990.

Method of Evaluating the Lending Library Outreach:

Data on the library performance and circulation are accumulated using a library feedback form. The form consists of items that are intended to collect information on the borrower's function and work facility, how the borrowed item was used by the borrower, and the borrower's evaluation of the item. The form is in constant revision to improve the accuracy of the collected data. A copy of the form is included in Appendix A of this report.

The library feedback form is provided to borrowers with each circulated item. Borrowers are urged to fill-out the form and return it with the borrowed item. Since the library feedback forms are filled-out and sent after using the borrowed items, only about 50% of the forms are returned with the borrowed items, which results in underestimating the circulation of the library collection. In addition, the circulation procedures that were followed in 1990 were such that circulation forms were destroyed after the return of the borrowed item, which made it difficult to follow-up on unreturned feedback forms.

Two points then must be noted with respect to the NET library outreach, first: except for the monthly circulation and acquisitions, the NET library outreach during FFY 1990, and the previous years, was underestimated due to the data collection procedures mentioned above. The second point is that due to the nature of library services and the way the borrowed library items were used, participants who attended presentations that were based on materials borrowed from the library were considered part of the library outreach.

To avoid duplication between the workshop outreach and the library outreach, data on the workshop participants and the library borrowers were entered on mainframe files and sorted by the social security numbers of the participants and the borrowers. The LAG function of the SPSS-X statistical package was used to eliminate duplications between and within the workshop participants and library borrowers.

Lending Library Outreach:

Material Circulation:

Figure (4) illustrates monthly circulation of the library collection during 1989 and 1990.

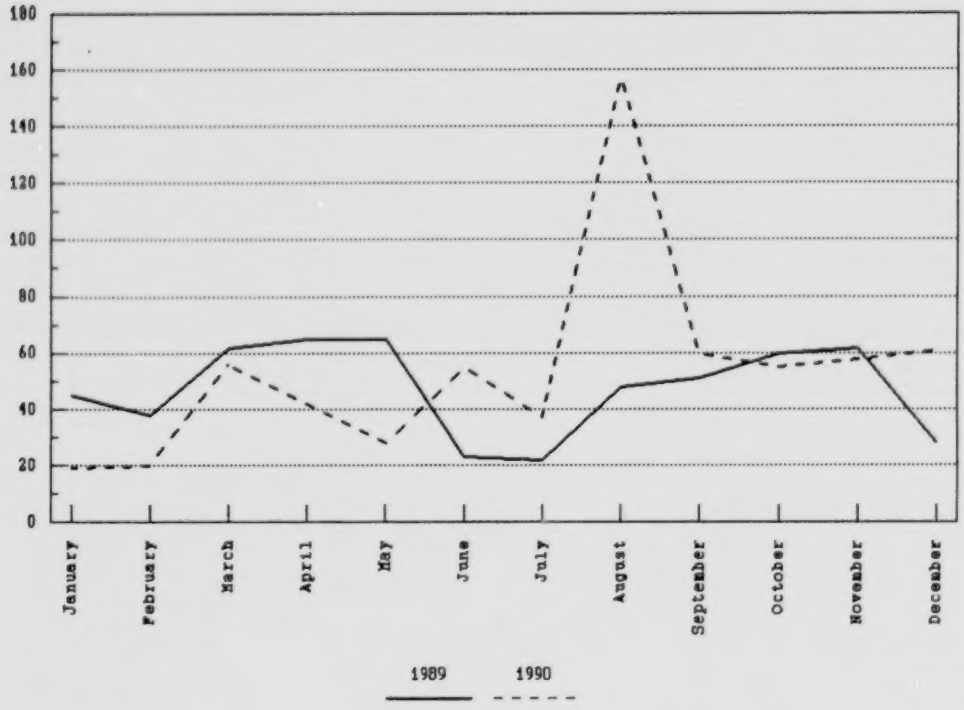

Figure 4 Monthly Circulation of Library Materials in FFY 1989 and 1990

Figure (4) shows that circulation of library materials during the first four months of 1990 was slow relative to 1989. A flux in circulation, however, occurred in August and coincided with a coordination of the library services with the TSFSA. The NET library served as a clearing house for training courses delivered to members of this association during this period. The total circulation in 1990 (648 borrowers) increased 13.9% over the total circulation in 1989 (569 borrowers).

Themes of Circulated Materials:

Table (2) lists themes of circulated library materials in 1989 and 1990.

Table (2) Themes of Materials Circulated in FFY 1989 and 1990

Theme	Frequency 1990	Percent 1990	Frequency 1989	Percent 1989
Food Service Training	167	38.0	36	10.3
Pre-Elementary School	55	12.5	9	2.4
Secondary	47	10.7	64	16.8
Adult Education	43	9.8	49	12.9
Elementary	24	5.5	27	7.1
High School	23	5.2	36	9.5
All Ages	20	4.6	34	8.9
Teacher/Provider	19	4.3	20	5.3
Through High School	14	3.2	17	4.5
General Education	8	1.8	5	1.3
General Nutrition	8	1.8	8	2.1
Preschool	6	1.4	69	18.2
Diet Therapy	3	0.7	2	0.5
Training	2	0.5	4	1.1
Total	439	100	380	100

It is apparent from Table (2) that the main thyme of the circulated library materials in 1990 was food service training, while it was preschool education in 1989. The increase in the circulation of the food service training materials reflects the effect of the coordination between the NET Program and the TSFSA. There was also a switch in the number of circulated pre-elementary school materials in 1989, and the preschool materials in 1990. However, the difference between the number of pre-elementary school materials and the preschool materials circulated in 1989 and 1990 may be due to an overlap in material classification. Table (2) indicates also that specialized themes were generally more circulated than general themes.

Types of Circulated Materials:

Table (3) lists types of circulated materials in the order of their circulation in 1990.

Table (3) Type of Library Materials Circulated in FFY 1990

Type of Material	Frequency of Circulation	Percent
Film	185	43.2
Videotape	175	40.9
Filmstrip	29	6.8
Slides	15	3.5
Book/Pamphlet	12	2.8
Audio Resource	4	0.9
Other Teaching Aids	3	0.7
Children's Book	2	0.5
Resource Guide	2	0.5
Curriculum	1	0.2
Total	428	100

Table (3) indicates that audiovisual materials topped the list of circulated materials in 1990. This same trend was dominant in previous years. Using the NET library as a clearinghouse for relatively expensive and rare audiovisual materials, rather than printed materials in nutrition education and food service management, emphasizes the important role the NET library plays in this field. It also points to the possibility of using the library collection as a source of support materials for workshops and group presentations more than as a source for research and other individual usage.

Use of Circulated Materials:

Table (4) shows how the borrowed library items were used in 1990.

Table (4) Use of Circulated Library Materials in FFY 1990

Use	Number of Times	Percent
Presentations To Food Service Personnel	235	37.1
Presentations To Mixed Client Group	82	12.9
Teaching Senior High Students	82	12.9
Checked But Not Used	50	7.9
As A Resource Information	45	7.2
Teaching Grades K-3	30	4.7
Presentations To Teachers	24	3.8
Teaching Pre-School Children	23	3.6
Presentations To Providers	19	3.0
Presentations To Sponsors	15	2.4
Teaching Grades 4-6	13	2.1
Teaching Junior High Students	8	1.3
Presentations To Parents & Guardians	7	1.1
Total	633	100

The information in Table (4) supports the assumption that NET library resources were used in group educational and training settings more than as a resource for individual information. Using borrowed library materials in group settings considerably increases the NET outreach and the efficiency of the NET library services.

Functions of Library Borrowers:

Table (5) lists the main functions of the library borrowers.

Table (5) Function of Library Borrowers in 1990

Function	Number	Percent
Nutritionists	192	31.4
Educators Or Care Givers	168	27.5
Administrators & Dietitians	160	26.1
Food Service Personnel	90	14.7
Medical	2	0.3
Total	612	100

Table (5) shows that nutritionists topped the list of borrowers from the NET library, followed by educators and other groups such as providers, sponsors and administrators. Food service personnel, another target population, followed in the list of library borrowers.

Work Facilities of Library Borrowers:

To further find out in which facilities borrowers from the NET library use the materials they borrowed, the work facilities of the borrowers were listed in Table (6).

Table (6) Facilities of Library Borrowers in FFY 1990

Facility	Number Of Users	Percent Of Users
Public School	298	48.4
TDHS	85	13.8
Other Settings	81	13.1
Hospitals	63	10.2
College/University	31	5.0
Other State Agencies	19	3.1
Day Care Centers	12	1.9
Day Home	11	1.8
Head Start	9	1.5
Private School	7	1.1
Total	616	100

Table (6) shows that almost half (48.4%) of the library borrowers worked in public schools. Since only 27.5% of the borrowers mentioned that they were educators; a cross tabulation between borrowers' work facilities and how the borrowed items were used was conducted to find out the actual library outreach. Table (7) presents the cross tabulation.

Table (7) How Library Users In Different Facilities Used Borrowed Items

Facility	Use									
	Resource	Teach Pre-school	Teach Grades K-3	Teach Grades 4-6	Teach Junior High	Teach Senior High	Present To Teacher	Present To FSP	Present To Parents	Total
Public School	8	4	22	2	6	76	1	164	0	297
Private School	1	5	0	0	0	0	0	0	0	7
Day Care Center	0	4	0	0	0	0	2	3	0	11
Day Home	0	6	0	0	0	0	0	0	0	10
Hospital	1	0	0	0	0	0	1	19	0	82
TDHS	9	0	1	1	0	0	19	7	0	85
Other Government Agency	12	0	0	0	0	0	0	6	0	19
College/University	3	0	0	0	0	0	0	11	0	31
Other Setting	5	3	7	10	2	2	1	20	7	61
Headstart	2	1	0	0	0	0	0	2	0	9
Total	39	23	30	13	8	78	24	232	7	545

Table (7) indicates that 61.9% of the borrowed items were used in presentations conducted in public schools for children and food service personnel. About 8.8% of the items were used for presentations to children in other child care facilities, and 5.5% were used in presentations to food service personnel in other child care facilities. Thus, over 76.2% of the library materials was used to reach NET target populations.

The 1990 goal for the library outreach was set at 5,250; 2,100 for public school populations, and 3,150 for other populations. The number of children reached by educators and food service personnel in public schools was 12,536, i.e. about six times the goal set for public school populations. The number of children reached in other child care facilities was only 334 children, far below the set goal. Thus, the library outreach far exceeded the goals set for 1990, however, this outreach is not proportional to the priorities set for different target populations.

Evaluation of Borrowed Library Materials:

The library feedback form included three items that asked the library borrowers to rate the materials they borrowed in terms of substance, usefulness, and how satisfying they were to the borrowers' needs. Figure (5) shows these ratings.

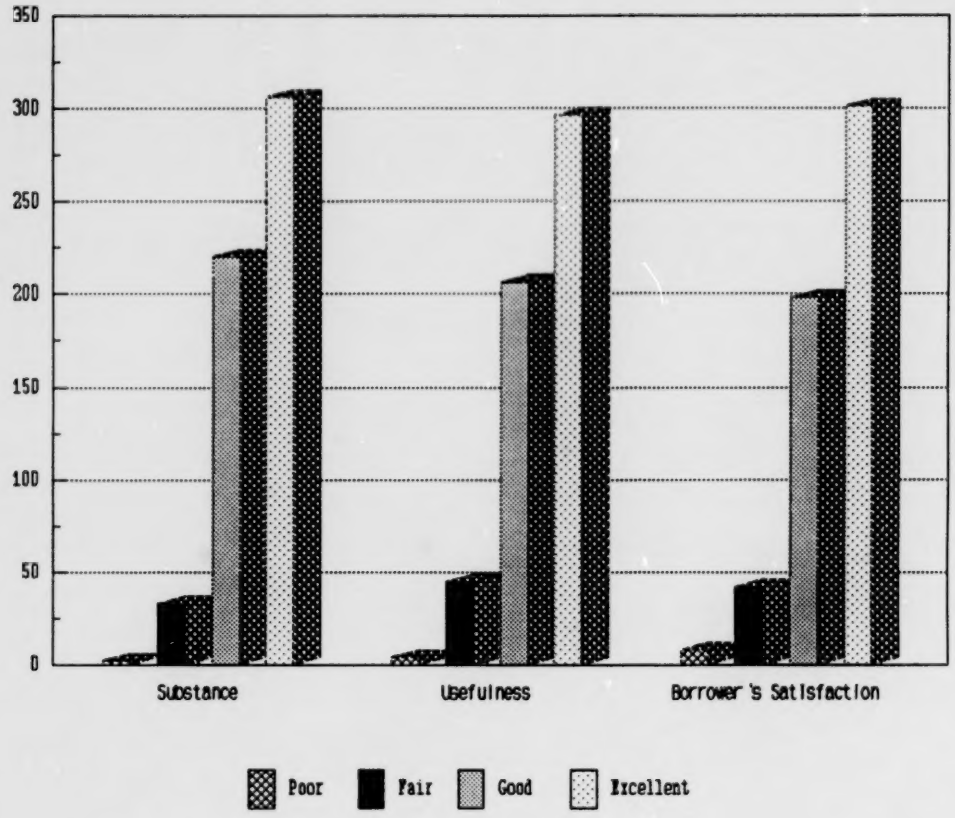

Figure 5 Borrower's Evaluation of Materials Borrowed from the NET Library in FFY 1990

Figure (5) illustrates that over half of the library borrowers thought that the items they borrowed were excellent in all three counts: substance, usefulness, and borrowers' satisfaction. Less than 1.5% thought that the borrowed items were poor. Thus, the quality of the borrowed items should encourage the library borrowers to continue using the library, and the themes of the library collection suit children and other target populations in schools and child care facilities. The limited library outreach to child care facilities may be due to limited efforts in advertising the library collection to target groups in these facilities.

Sources of Information About the NET Library:

Figure (6) shows how library borrowers knew about the NET library and its services.

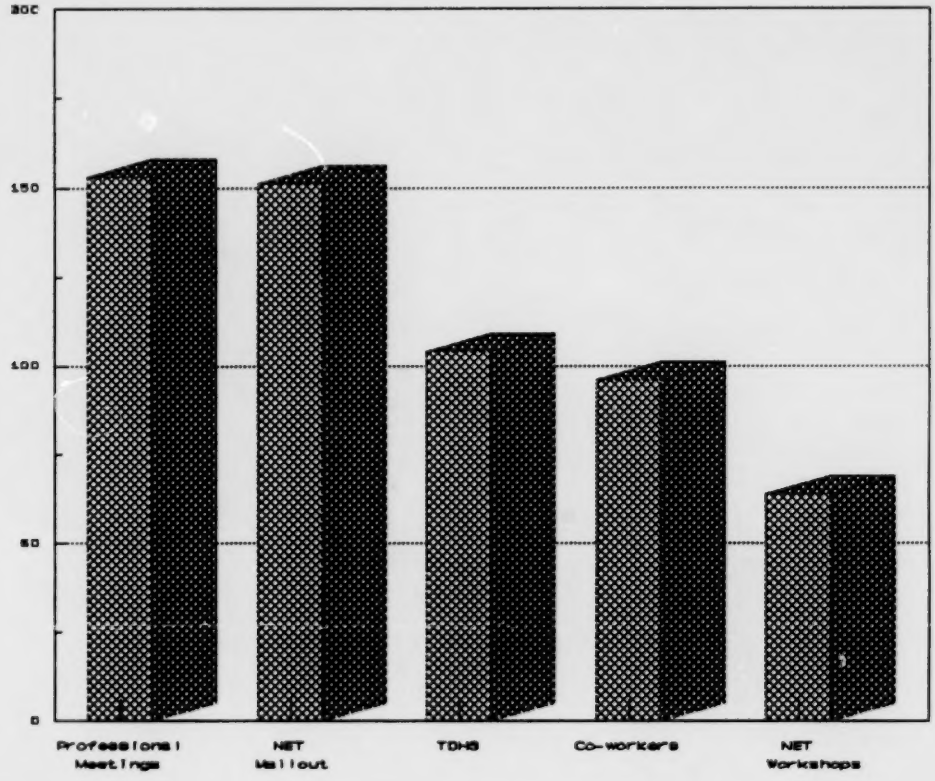

Figure 6 Sources of Information About the NET Library in FFY 1990

It is apparent from figure (6) that professional meetings were the most frequent source of information about services of the NET library, followed by mailed or published information about the library, followed by information the borrowers received directly from NET. Thus, to enhance the library outreach to target groups in child care centers, day homes, and residential child care institutions information about the library should be presented in the professional meetings of these groups, and mailed to their work facilities.

DEVELOPMENT AND DISTRIBUTION OF INSTRUCTIONAL MATERIALS

Introduction:

As a small efficient unit, NET relies heavily on ready made instructional materials in nutrition education and food service management. However, NET's efforts in education and training are not limited to information dissemination. When ready made instructional materials are not available to realize NET's goals and objectives, the NET staff develops needed instructional materials or revises and adapts available materials. Thus, curricula for the 22 workshops conducted by NET were developed by NET staff and revised regularly to meet the recent advances in knowledge as well as in methods and techniques of instruction; and to increase content congruence with federal and state policies and regulations.

In addition to workshop curricula, regular evaluations of NET activities may point to a need to develop certain instructional materials such as recipes, cycle menus, brochures, and handouts. Several materials, such as instructional kits and food recipes, were translated into Spanish to meet the needs of the large hispanic population in Texas.

Material Development:

Two new workshops were developed in FFY 1990, they are:

1. Nutrition for Children
2. Nutrition and Life Sciences.

Both workshops were approved for six hours of Advanced Academic Training (AAT) by TEA and are expected to increase NET's outreach to public school educators considerably in 1991.

The Nutrition for Children workshop was developed mainly for educators of K-3 children in schools, registered family homes, group day homes, day care centers, head start centers, kindergartens, and nursery schools. The purpose of the workshop is to show different nutrition influences on young children, and help adults responsible for the children's nutrition apply the nutrition information provided in the "Dietary Guidelines for Americans" in an effort to improve children's diets and eating habits. The workshop was scheduled and delivered during the second half of FFY 1990.

The Nutrition and Life Sciences was developed for home economic and life science teachers of secondary grades 8-12. The purpose of the workshop is to inspire these teachers to coordinate their efforts in showing their students how lab experiments relate to scientific knowledge. The workshop was completed by the end of FFY 1990 and will be scheduled and delivered in FFY 1991.

Four workshops were revised in 1990, they are:

1. Advanced Menu Planning
2. Kitchen Math & Food Purchasing
3. Food Service Workshop
4. Sanitation and Health

All four workshops are directed toward food service personnel, and are expected to boost NET's outreach to this target group in 1991.

In addition to the workshops, a media catalog was developed and produced in 1990. The catalog includes the latest library acquisitions of audiovisual materials and annotations on their use. Seven thousand five hundreds copies of the catalog were produced and are in the process of being disseminated to targeted groups, institutions, and organizations. The new catalog is expected to boost the NET library outreach in FFY 1991.

The development of the two workshops and the media catalog meets the goal set for material development during FFY 1990.

Material Distribution:

Each workshop participant received a material package that included the workshop curriculum guide and the handouts that were used during the workshop. Thus, 2,091 material packages were distributed to the workshop participants in 1990.

In addition to the materials distributed to workshop participants, selected materials were mailed to the work facilities of the participants to enable the participants to use materials needed to apply the knowledge and skills they gained from the workshops in actual life and classroom settings.

Table (8) lists materials mailed to the work facilities of workshop participants during FFY 1990.

Table (8) Materials Mailed to Facilities of Workshop Participants in 1990

Material	Number Distributed
Produce Poster	287
How To Eat For Good Health Poster	193
USDA Commodity Fact Sheets	5
Chef Combo Kit (English Version)	221
Chef Combo Kit (Spanish Version)	60
CCFP Recipe Card File	87
NET Ethnic Recipe Card File	20
NET Cycle Menus	20
Very Hungry Caterpillar Book	57
Food Models	57
More Than Graham Crackers Book	57
Total	1064

Over 82.2% of the materials listed in Table (8) was instructional materials designed to directly instruct children in nutrition education. In addition, recipe cards, menus, and food regulations were distributed to help food service personnel plan nutritious meals. Both types of materials are important in realizing NET goals.

NET distributed 11,800 instructional materials during FFY 1989. Distribution of instructional materials remained almost the same (i.e.; 11,776 items) in 1990. The factors that contributed to the decrease in material distribution in 1989, namely, the decrease in the number of workshops delivered and in workshop participation, persisted in 1990.

PRESENTATIONS, EXHIBITS, AND PUBLICATIONS

Introduction:

A major task of NET is to publicize the services it provides for the different target populations in order to increase NET's outreach and to manage the program's services efficiently. It is good public relations to inform the public about how their share of federal taxes is spent in educating the nations's children in eating economically and for good health. Presentations, exhibits, and publications are important sources of information in a modern society.

Different types of materials were developed for NET's presentations and exhibits in 1990. A slide set was developed to advertise NET services as a whole, and another set was developed to advertise the services of the NET lending library. Similarly, brochures were developed to advertise NET services in general, the NET lending library, and the NET workshops. Five handouts were developed to address major concerns about nutrition and health.

Presentations:

Table (9) lists titles of presentations that were given in 1990, their locations, dates, and the groups that attended these presentations.

Table (9) NET's Presentations During FFY 1990

Presentation	Location	Date	Attending
Resources In Nutrition Education; Feeding Children With Handicapping Conditions	Texas School Food Service Association, Houston	June 12-13, 1990	Food Service Personnel
Feeding Children With Handicapping Conditions	University Of Texas, Austin	June 14, 1990	UT Students
Feeding Children With Handicapping Conditions	American School Food Service Association fourth Annual Conference, New Orleans	July 13, 1990	Food Service Personnel
Introductory Nutrition	Youth Opportunities Unlimited Program At University Of Texas, Austin	July 24-25, 1990	9th & 10th Graders
The Four Food Groups	Pease Elementary School, Austin	August 30, 1990	Second Grade Children

Data in Table (9) indicate that a total of five presentations were given to different target groups. Three of these presentations were given in Austin, Texas. None of the presentations were directed to parents in spite of their influence on their children's health and eating habits, and in spite of the numerous PTA meetings that are conducted in schools and child care facilities all over Texas.

Exhibits:

Table (10) includes a list of exhibits and fairs that NET held during FFY 1990.

Table (10) NET's Exhibits And Fairs During 1990

Place of Exhibit	Date
Texas School Food Service Association, Board Meeting Austin, Texas	February 9, 1990
Texas Department of Human Services Health Fair, Austin, Texas	March 27-28, 1990
Austin Club, Austin, Texas	May 23, 1990
Texas All Well, Austin, Texas	June 5, 1990
Annual TSFSA Meeting, "Hall of Fame Exhibit", Houston, Texas	June 12-14, 1990
Seventh Annual Administrator's Licensing Conference Dallas, Texas	August 2-3, 1990
Texas Education Agency Health Fair, Austin, Texas	August 17, 1990
Texas Department of Human Services Health Fair, Austin, Texas	August 31, 1990
Texas Department of Mental Health Mental Retardation Austin, Texas	October 18, 1990
Annual Meeting, Texas Association of Health, Physical Education, Recreation and Dance, Dallas, Texas	November 28-30, 1990

Table (10) indicates that NET participated in 10 exhibits and fairs. Four of these exhibits were held in national associations, and the rest were held in state agencies that perform functions similar to NET's. The Texas State Plan sets the goal for the number of fairs held by NET in 1990 at five. Thus, NET met and exceeded the set goal.

Publications:

Table (11) includes a list of NET's publications during FFY 1990.

Table (11) NET's Publications During 1990

Article	Publication	Date
NET Library Resources	Chuckwagon, TEA Newsletter Of School Lunch And Child Nutrition Program	February, 1990
To Help Your Heart, Calories And Fat Both Count	Austin Health And Fitness	February, 1990
NET Library Resources	The Austin American Statesman	March 8, 1990
Rainbow Compote	Austin Health And Fitness	March, 1990
Eating To Lose	WE, Newsletter Of Texas Department Of Human Services	April, 1990
Fitness Myths, You Don't Need To Live By	Austin Health And Fitness	April, 1990
Feeding Child With Handicapping Conditions-Guidelines For School Food Service Personnel	Lunch Bell, Journal Of Texas School Food Service Association	Fall, 1990

Thus, Table (11) lists seven articles that were published during 1990, two about NET library services and the rest on current nutritional issues. All publications are light reading and are different from NET's previous scholarly publications.

COORDINATION WITH RELATED PUBLICLY SUPPORTED PROGRAMS

Introduction:

Coordinating efforts of the NET Program with those of other publicly supported programs with similar functions is based on NET Program regulations and is part of the program's goal. This coordination is expected to promote outreach of the NET Program and to reduce the probability of duplication of efforts and resources of publicly supported programs.

Coordination efforts take different forms. NET continues to attend and present program outcomes at state and national professional meetings. This interaction allows communication and exchange of information relating to NET's planned activities and possible avenues of cooperation with other programs. Another direct approach to coordination is submitting proposals for cooperative efforts and offering consultations that are in the realm of NET's expertise. Exhibits, fairs and publications publicize NET's activities and expertise and open doors for cooperation and coordination.

Coordination Efforts:

The Texas Resource Council was established as a result of NET's efforts in June 1990 as a major statewide cooperative linkage between high level food and nutrition policy stakeholder. It meets quarterly to discuss funding possibilities, overlapping interests, legislation, and prevention of duplication of efforts. Moreover, NET's Coordinator became the liaison to the Texas Nutrition Council (TNC) which meets bi-annually to promote nutrition education.

A TSFSA initiative was established early in 1990 with the NET library collection designated as a major clearinghouse for all certification courses delivered to members of this association. In return, the TSFSA gave NET a minimal stipend to purchase three videos. Additionally, Extension Services through the TNC, has promoted use of NET collection to all their county extension agents. These coordination efforts resulted in an expansion in library services during FFY 1990.

In 1990, coordination with TEA resulted in NET's reviewing the Texas Essential Elements of the high school Health Education curricula which dealt specifically with the nutrition component for grades 9-12. These elements will be implemented in Texas high schools in 1991-95.

NET also worked with the Texas Department of Mental Health Mental Retardation (TDMHMR) Wellness Program to conduct brown bag lunch seminars on consumer fraud and participated in the TDMHMR Health Fair. Coordination with TDMHMR included NET staff serving in an advisory capacity on the feeding difficulties of school children with developmental disabilities. And since NET had expanded its public relation efforts in 1990, the TDMHMR selected the NET program as a pilot for the TDMHMR Community Development group.

In addition, NET staff were invited by the American Cancer Society's Public Education Committee to help plan nutrition education activities statewide for preschool through high

school age children. Members of the staff also gave four presentations to Youth Opportunities Unlimited (YOU), a summer program for disadvantaged high school students. Thus, NET reached about 120 students through lecture, hands on activities and videos.

Figure (7) summarizes NET's outreach in 1990 and compares it with NET's outreach in the past five years.

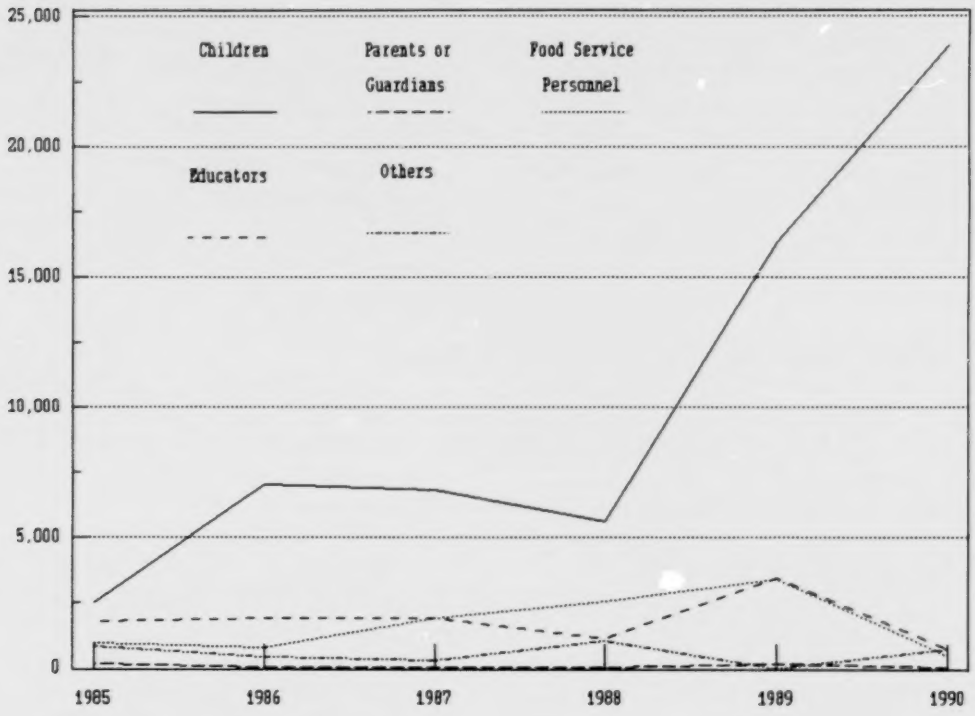

Figure 7 Summary of NET Outreach From FFY 1985 - 1990

RECOMMENDATIONS

1. Since some workshops were conducted less frequently, and with fewer number of participants than the minimum required, there is a need to evaluate the procedures used in scheduling the workshops, and to evaluate the workshops in general. It is not efficient to spend the limited NET resources in revising scheduling and conducting workshops that are not in high demand. The evaluation should assess the need for present or new workshops and reveal the variables that make NET workshops more appealing to the target populations.

2. Because the goal set for the number of public school participants attending NET workshops was not met in 1990, NET should renew its efforts in approving, developing, and conducting AAT workshops. These efforts must be based on a comprehensive review of public school nutrition curricula form K - 12 and on state of the art in teaching nutrition. Since TEA approved four AAT workshops since 1986, there seem to be a need for this type of workshops.

3. The delay in scheduling the Nutrition for Children workshop and the cancellation of the Nutrition & Life Sciences workshop had adverse effect on the number of public school participants. Besides, there was not a state-wide drive for scheduling the workshops in 1990 and the scheduling efforts were limited to the training centers. A two-year plan for workshop scheduling should be prepared and adjusted yearly and workshops should be advertised statewide.

4. Since a flux in library circulation occurred as a result of the coordination with TSFSA, and since similar surges in NET's outreach occurred as a result of the coordination between NET and TEA, there is a need for continued contact and coordination with professional associations and others agencies that are interested in training their members.

5. Most of the borrowed library materials were used for group presentations, and most of the borrowed items were audiovisual materials. Thus, emphasis should continue on this type of materials in the library collection. Audiovisual materials has already been emphasized by the production of the audiovisual catalog in 1990. Reviews and presentations of new audiovisual material acquisitions in schools and professional meetings as well as professional journals are recommended to increase the library outreach, and NET's outreach in general.

6. Since use of the library by target groups in child care facilities did not reach the target set for 1990, there is a need to publicize the library services to professional associations, and in meetings and facilities of these groups.

7. Since very few parents were reached through NET's interventions in FFY 1990 and the previous years, it is recommended that NET develop and deliver presentations and hold fairs in the annual PTA meetings and in the association's school meetings throughout Texas. Such efforts should boost NET's outreach to a target population that has a major influence on children's health and eating habits.

8. There is a need to renew NET's interest in professional writing and publishing in professional periodicals, to stress NET's role as a leading program and as an authority in nutrition education.

9. NET actively pursued coordination efforts with other publicly supported programs. This coordination is expected to positively affect the NET Program outreach and it is recommended that these efforts continue in following years.

III. EVALUATION OF THE NUTRITION FOR CHILDREN WORKSHOP

INTRODUCTION

Background:

As mentioned in sections I and II of this report, conducting nutrition education workshops to prevent disease and enhance well-being of the State's children is a major activity of the NET Program. By providing information and resources to instruct teachers, child care providers, and food service personnel in the fundamentals of nutrition and how to convey this information so as to motivate children to make healthy food choices, the NET Program helps children accept the nutritious meals and snacks served in school cafeterias and child care settings. The expected outcomes are improved nutritional status for children and reduced food waste in school and child care food service programs.

Data describing changes in workshop participants' knowledge and attitudes are needed for three reasons. First, information about the extent to which the workshops are successful in communicating child nutrition related concepts to members of the NET Program's target population are needed to help document program impact. In addition, this data is useful in showing the public how federal funds are spent and in supporting requests to USDA for continued funding of the Texas NET Program.

Another reason workshop performance data are needed is to help identify areas where changes can be made to improve the curricula. By identifying areas where participants have already achieved mastery before the workshop, and identifying areas where mastery is not achieved even after the workshop, this study provides information workshop instructors can use in making decisions about how to allocate learning time during the workshop. For the curriculum developer, this study provides information to aid in directing how the curriculum can be revised and updated to make the workshop as effective as possible.

Finally, data about workshop performance are required to help make decisions about content and format of training still needed to enhance children's opportunities to learn and practice healthy eating habits.

In 1985, the Texas NET Program conducted a survey of public school teachers to assess their needs and preferences for nutrition training and materials. Based on the results of that study and on guidance from the regional office of the USDA, an explicit objective in the NET Program's amended state plan for 1986 was to place increased emphasis on reaching public schools with NET resources. The same objective was stressed in the 1990-1991 state plan.

During 1986, interagency agreements and curriculum modifications resulted in TEA's approval of two of NET's workshops to be made available to public school teachers for advanced academic training (AAT) credits. The two workshops--Nutrition and the Young Child and Nutrition and Physical Fitness--became available for credit in 1987. Similar agreements resulted in the approval of two additional AAT workshops in 1988 (i.e., Nutrition for Children and

Nutrition and Life Sciences). Only the first workshop was completed and scheduled during FFY 1990. Following is an evaluation of this workshop.

Purpose:

This study was conducted to determine how well the Nutrition for Children workshop helped participants master nutrition related knowledge and attitude learning objectives; and how much the workshop participants were satisfied with the training they received during the workshop.

The purpose of the workshop was defined as providing information on using the "Dietary Guidelines for Americans" as a basis for nutrition education in the classroom. The target workshop participants were grade K-3 educators in public or non-profit private schools which participate in the USDA child nutrition programs.

Eight learning objectives of the workshop were defined as follows:

1. Upon completion of the workshop, participants will be able to recognize the specific influences that guide children's food selection behavior.

2. Upon the completion of the workshop, participants will be able to recognize the relationship between general dietary characteristics and areas of nutritional concern.

3. Upon the completion of the workshop, participants will recognize basic nutritional concepts of the "Dietary Guidelines for Americans."

4. Upon the completion of the workshop, participants will be able to identify and select healthy snack choices based on the "Dietary Guidelines for Americans."

5. Upon the completion of the workshop, participants will be able to use nutrition labels as a basis for identification of healthy snacks in accordance with the "Dietary Guidelines for Americans."

6. Upon the completion of the workshop, participants will be able to use "Food... Early Choices" to provide positive food experiences, adapt the educational activities as necessary, and integrate them into the classroom curriculum.

7. Upon the completion of the workshop, participants will be able to construct the Snack Center, an educational learning center, and use it for independent snack preparation by children in the classroom.

8. Upon the completion of the workshop, participants will be able to select appropriate grade level nutrition education activities and use such material s a basis for development of additional learning experiences.

Thus, this study was conducted to evaluate the extent of realizing these objectives in the workshop participants.

METHOD

Sample:

A total of 11 AAT Nutrition for Children workshops were conducted in 1990. There were 227 participants in these workshops. Table (12) shows the function and work facility of the participants.

Table (12) Function And Work Facility Of The Participants

Function	Work Facility			
	Public School	Private School	Day Care	Other
Educator	189	8	12	1
Food Service Personnel	15			
Administrator	1			1
Total	205	8	12	2

Table (12) indicates that the majority (92.5%) of the workshop participants were educators. Most of the educators (90%) worked in public schools. Thus, it seems plausible to assume that the main purpose of participating in these AAT workshops was to receive the six hours advanced academic credit given to the participants.

Data on the participants of two of the workshops were excluded because the participants were provided with test forms that were different from those approved by the evaluator and the training coordinator. Consequently, data on 180 workshop participants were collected and analyzed.

Material:

Knowledge Tests:

A pretest, a post test, and a follow-up test were developed to measure the participants' mastery of factual and operational knowledge presented during the workshop. Test scores were used to determine the gains in performance for each participant over time. Fifteen test items were developed by the evaluator and other members of the staff. The items measured all stated workshop objectives.

Each test item had five response alternatives in a multiple choice format. Participants were instructed to select the one best response alternative for each item.

To assure that the tests were representative of workshop content, their validity was checked by matching test items to the specification table for the workshop curriculum. The pretest, post test, and follow-up test consisted of the same test items. The same items were used on the three tests to assure consistency of participants' responses and to increase the reliability of the three tests. The order of the test items and the order of the items' alternative responses were varied randomly to reduce the effects of test-specific memory. Appendix B of this report contains a copy of the pretest, post test, and follow-up test.

Test reliability was checked by using SPSS-X procedure for computing coefficient alpha. Assessed reliability was .41 (n =180). This figure was judged to be fair since a test created using mastery approach gives a low reliability due to the ceiling effect.

Attitude Scale:

An attitude scale was developed by the program evaluator to measure participants' attitudes toward nutrition and its relationship to the well-being of K-3 children. The scale consisted of 12 Likert-type items that ran from one--representing a strongly disagree attitude--to five--representing a strongly agree attitude. The desired weight of the items was varied (i.e., the desired response was strongly agree for some items and strongly disagree for other items to minimize participants' tendency to select specific points on the scale).

Content validity of the attitude scale was assessed by checking items against the table of specifications for the workshop curriculum. Scale reliability was assessed using SPSS-X procedure for calculating Cronbach's coefficient alpha. Assessed reliability was .53 (n = 176) before the training and .56 (n = 63) for the follow-up. These figures were judged to be fair. Low reliability was expected due to the limited number of items on the attitude scale and the ceiling effect encountered. When there is high agreement among respondents, reliability coefficient tend to be low because of the restriction in range. Appendix B of this report contains a copy of the attitude scale.

Training Report:

A standardized training report developed by TDHS's Staff Development Division (form 4316) was used to measure participants' satisfaction with the workshop in general, and their suggestions for improving the workshop.

The form consisted of five scaled items and 3 open-ended items. The scaled items used a four point scale to indicate whether or not: 1) the workshop objectives were communicated, 2) the instructor's presentation and manner helped meet the objectives, 3) the instructor provided opportunities for discussion, comments, and questions, 4) the workshop content helped meet the objectives, and 5) the handouts and other audiovisual materials helped meet the learning objectives. Each item was scaled from one--representing a "not at all" reaction, to four--representing a "very well" reaction. The criterion for acceptable levels of satisfaction was set at 3.0. Ideal levels of satisfactions were set at 3.5 to 4.0. Appendix B contains a copy of the training report.

Procedure:

The Nutrition for Children workshop, like other NET Program workshops, was conducted free of charge by registered dietitians in the participants' own communities. The 11 workshops were conducted in the two month period between June 7, 1990 and August 7, 1990.

Exercises at the close of each section of the workshop curriculum provided feedback to participants about their mastery of specific learning objectives. Many of the exercises involved group problem solving. Frequent use was made of audiovisual materials. The workshop duration was 6 hours.

The workshop instructors administered the pretest at the beginning of the workshop; and administered both the post test and the attitude scale after the workshop training to provide data on participants' mastery of knowledge and attitude learning objectives. The training evaluation report was administered at the close of the workshop to measure the participants' satisfaction with the workshop.

The follow-up test and attitude scale were mailed to the participants approximately three months after the close of the workshop to measure the participants' retention of knowledge and attitudes they gained as a result of the workshop training. There were 62 respondents to the follow-up test and attitude scale.

It may be noted that the planned procedures called for administering the attitude scale similar to the knowledge tests (i.e., once before the beginning of workshop training, a second time after the training, then a third time about three months after the workshop). However, because these procedures were different from the procedures followed in previous years, the workshop instructors conducted the scale only at the end of the workshop training. A follow-up copy was mailed to participants with the follow-up test.

Statistical Analyses:

Scores of the pretest, post test, and follow-up test were compared to determine the effect of the workshop on participants' mastery of knowledge objectives. Criterion references were preset such that 70% correct responses was considered acceptable and 90% correct responses signified mastery. Statistical significance of observed gains was evaluated using SPSS-X procedure for repeated measure analysis of variance.

In order to diagnose relative strengths and weaknesses of the workshop, goals were set for specific items and actual performance compared against the goal. Using the criterion references and actual performance of the workshop participants before and after the workshop, it was possible to identify content areas in which mastery existed before the workshop, areas in which mastery was facilitated by participating in the workshop, and to areas needing improvement.

Average attitude values before and after the workshop were compared. Criterion references were preset such that 4.0 represented acceptable levels of positive attitudes and 4.5 represented mastery of attitude learning objectives. Statistical significance of changes in

attitude scores was evaluated using SPSS-X procedure for the T-Test on independent groups, since matching the performance of the same participants before and after training was not possible due to the procedures followed in administering the scale.

Percentages of participants who responded to each of the training report items were calculated.

RESULTS AND DISCUSSION

Workshop Participants' Knowledge:

Workshop participants showed performance improvements as measured by the pretest, the post test, and the follow-up test. At the close of the workshop, 19.6% of the participants exceeded the criterion for acceptable performance on the knowledge test (i.e., responded correctly to 70% or more of the test items). None of the participants scored at or above the criterion on the pretest. Table (13) contains the mean and standard deviation of the participants' scores in the pretest, post test, and follow-up test.

Table (13) Mean And Standard Deviation For The Knowledge Tests

Test	Mean	S. D.
Pretest	2.05	.65
Post Test	7.19	2.27
Follow-up Test	3.41	.59

Data in Table (13) shows that the means were 2.05 for the pretest with a standard deviation of .65; 7.19 for the post test, with a standard deviation of 2.27; and 3.41 for the follow-up test with a standard deviation of .59. The increase in the mean from 2.05 to 7.19 is most likely due to the positive effect of the workshop training. The standard deviation was relatively higher for the post test than for the pretest and the follow-up test. These results suggest that the workshop training affected the participants differently and lead to increased variance in their test scores. The drop in the follow-up test scores is expected due to the three month time period that elapsed between testing.

Table (14) contains the results of the analysis of variance of the three tests.

Table (14) Analysis Of Variance For The Knowledge Tests

Source Of Variation	Sum Of Squares	D. F.	Mean Squares	F	P.
Between People	120.43	51	2.36		
Within People	1013.85	104	9.75		
Between Measures	818.47	2	409.24	213.65	0.01
Residual	195.38	102	1.92		
Total	1134.28	155	7.32		

Table (14) indicates that improvement in knowledge test performance was statistically significant at the .01 level. The value of F (2, 102) was 213.65 and $p < .01$.

There were no significant differences in knowledge test scores for the 52 participants whose pre-, post, and follow-up test records could be matched and those of the 128 participants whose pre-, post, and follow-up records were not matched. It can be concluded that the sample was representative of the entire population of participants in the workshop.

Table (15) contains percent of participants giving correct answers to questions on the knowledge test.

Table (15) Percent Of Correct Responses To Test Items

Item	Pretest	Post Test	Follow-up Test
1. USDA Diet Guide Terms	40.0	0.6	66.1
2. Percent Of Kilocalories	32.6	3.5	0.0
3. Content Of Value Label	50.8	32.5	13.8
4. Equations Of Food Items	28.6	37.9	38.1
5. Nutrition/Health Problems	81.8	3.5	79.4
6. Nutritional Snacks	55.4	91.7	1.6
7. Snack Center	56.5	0.0	4.9
8. Influences On Eating Habits	76.4	98.2	85.7
9. Number Of Meat Servings	44.7	93.0	73.0
10. Diet For Less Disease	36.9	3.0	74.2
11. Goal Percent Of Calories	25.3	94.1	63.9
12. Importance Of Labeling	76.8	88.9	85.5
13. Diet For Children Age 2-4	12.1	53.3	33.9
14. Diet and Disease	45.2	0.6	4.9
15. NET Lending Library	68.2	96.5	0.0

It is apparent from Table (15) that acceptable performance was already achieved for three of the 15 test items on the pretest. The majority of the workshop participants knew the relationship between nutrition and major health problems of young children (item 5); the sources of influence on children's eating habits (item 8); and the reason why nutrition labeling is important (item 12).

Acceptable performance was reached for three more items by the end of the workshop. The curriculum especially helped participants learn about nutritious snacks for young children (item 6); the number of meat servings for school-aged children (item 9); the goal for percentage of calories from fat in the American diet (item 11); and regulations on borrowing from the NET lending library (item 15).

When participants took the follow-up test approximately three months later, acceptable level was achieved on five of the 15 test items. However, none of the participants responded correctly to item 15 on the regulations of the NET lending library because of a change in the borrowing regulations which occurred during the three months that intervened between the post test and the follow-up test. Scores on the rest of the test items fluctuated in the pretest, post

test and follow-up test, indicating that participants still had difficulty answering these items. Participants performed better in the follow-up test than in the post test with respect to item 10, which inquired about diet recommendations that may reduce the risk of disease.

Workshop Participants' Attitudes:

Table (16) shows the means and standard deviations of workshop participants' responses to items on the attitude scale.

Table (16) Mean And Standard Deviation Of Items On The Attitude Scale

Item	Attitude Before		Attitude After	
	Mean	S.D.	Mean	S.D.
1. Children Eat Good Food	4.22	.87	4.03	.95
2. Children Adequate Nourishment	2.99	1.11	3.30	1.20
3. Snacks Spoil Appetite	3.46	1.05	3.36	1.07
4. Food Labels Guide	3.94	.88	4.34	.51
5. Children Don't Get Sick	4.25	.70	4.30	.84
6. Puppets Are For Entertainment	3.38	1.02	3.33	1.15
7. Children Participation In Meal Planning	3.48	1.10	3.72	1.05
8. No Need For Library	3.18	1.18	3.10	1.24
9. Library Is Source For Audiovisuals	3.98	.75	4.24	.72
10. Diet Guide And Snacking	3.46	.95	3.52	1.11
11. Diet Guide Not Helpful	3.98	1.00	4.13	.91
12. Diet Guide Is Useful	4.06	.76	4.19	.62
Total	44.28	4.46	45.83	4.74

It is apparent from Table (16) that more workshop participants scored above the criterion value of 4.0 on the five points scale items after the workshop. Before the workshop, only 22.7% had scored as high as 4.0. The percent of participants who scored above the criterion value rose to 31.6%. The grand mean rose from 44.28 before the training to 45.83 three month later. Before the training, the participants' attitudes were acceptable toward the children's instinctive eating habits (item 1); the relation between nutrition and health (item 4); and the "Dietary Guidelines for Americans" as a teaching tool. After the training, the participants attitudes were acceptable also toward food labels as a guide to nutrition planning (item 4); the NET library as a source for audiovisual materials (item 9); and the importance of "Guidelines for Americans" in planning daily meals (item 11).

A T-test was conducted on the participants' responses on the attitude scale before and after the workshop training. The results of the test indicate that the participants' performance on the attitude scale after the workshop significantly improved over their performance before the workshop. The value of t (1, 231) was 3.21, $p < .001$.

Participants' Satisfaction with the Workshop:

Table (17) shows the mean and standard deviation of participants' responses to each of the five scaled items on the training evaluation report.

Table (17) Means And Standard Deviations For Training Satisfaction Scale

Item	Mean	S. D.
Objective Communication	3.80	.45
Presentation And Manner	3.75	.52
Interactions	3.81	.42
Content	3.78	.48
Materials	3.81	.43
Total	18.95	2.00

Table (17) indicates that the means of participants' responses to the first five items on the evaluation report ranged from 3.75 to 3.81 out of a total of four. Thus, workshop participants gave the workshop high ratings on every dimension measured. Most of the participants (92% to 96.8%) did not comment on these first five items on the training report, and very few (0.5% to 1.1%) commented negatively. The rest of the participants' comments were favorable.

Figure (8) illustrates participants' responses to the sixth item on the evaluation report (i.e., "What part(s) of the session will be most helpful to you in doing your job?").

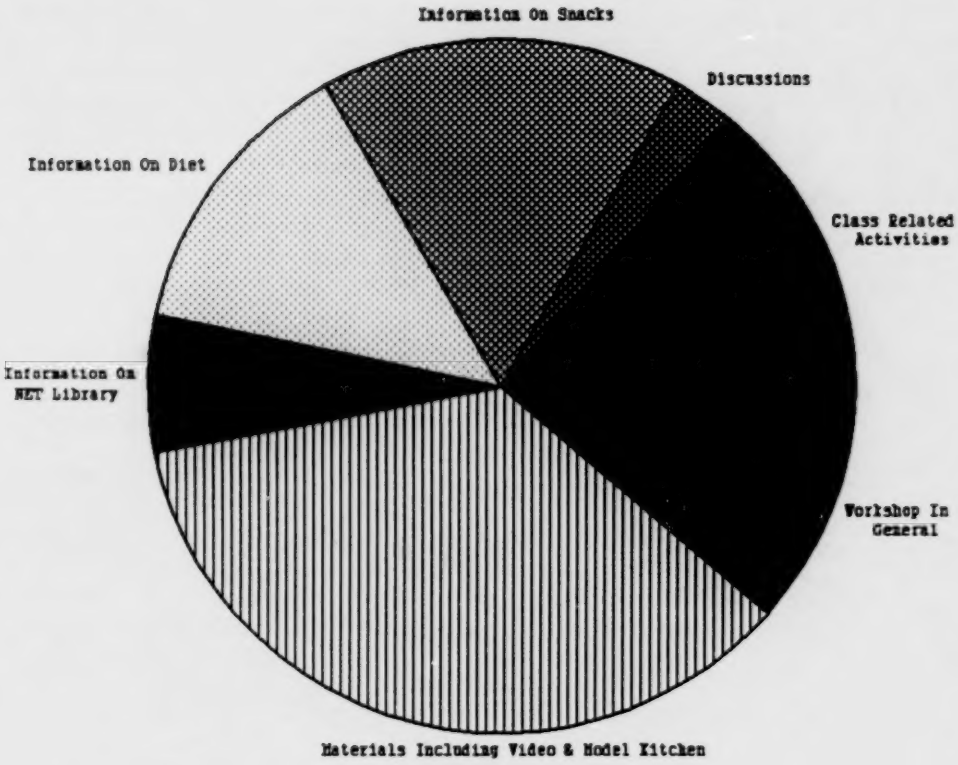

Figure 8 Most Helpful Parts Of The Workshop

Figure (8) shows that instructional materials the participants received or saw during the workshop were regarded as the most useful part of the workshop. The participants' appreciation of the instructional materials they received points to the importance of NET material development and distribution. Information on snacks was perceived also as very useful to the participants in doing their jobs.

Few participants responded to item 7 on the training evaluation report (i.e., "What part(s) of the session will be least helpful to you in doing your job?"). Percents of food components (19 participants), information on pre-k and k nutrition education (6 participants), adult nutrition (4 participants), and Dietary Guidelines for Americans (4 participants) were considered the least useful parts to the participants.

When the participants were asked to give suggestions for improving the session (item 8) 35 participants suggested less lecturing and more hands on activities; 10 participants suggested gearing the workshop more to children nutrition than to adult nutrition; and 9 participants suggested more classroom applications. One or two participants suggested more snacks ideas, more handouts, sample menus, and more workshop time.

In general, results indicate significant positive impact of the workshop on its participants. Participants knew more and held more favorable attitudes after the workshop and were satisfied with the training received during the workshop.

Although the results of knowledge and attitude testing indicated significant gains in performance, significant behavior change based on one day intervention usually is not a reasonable expectation in terms of observable behavioral change. However, accumulation of the effects of these types of interventions ultimately will lead to changes in behavior.

The assessed reliability coefficient for the knowledge test was not as high as expected. However, there are factors that possibly affected these reliability coefficients such as:

- o homogeneity of the participants. When the respondents to a test constitute a highly homogenous sample the reliability estimate will be lower than if the sample were more heterogeneous.
- o Number of test items. In general, short tests are less reliable than longer tests.
- o Ceiling effect. Usually, when a test is developed using the mastery approach to learning, the reliability coefficient of the test is relatively low. This is due to the ceiling effect of having respondents who already know some of the information given to them during the learning process.

RECOMMENDATIONS

1. Post test scores and follow-up test scores indicated that there were items that participants consistently had difficulty answering. These items should be revised or replaced so that the test more accurately measure the participants' performance. On the other hand, the related curriculum areas should be revised to make the topics related to these items more clear to the workshop participants, and to incorporate the participants' suggestions and comments regarding these areas as much as possible.

2. There is a need to improve NET's method of developing and delivering new or revised workshops. These workshops should be piloted and revised before scheduling them on a large scale. Using control group designs is also beneficial in accurately assessing the actual gains in knowledge and attitudes achieved as a result of workshop training.

3. There is a need to develop more valid and reliable test items to assess the effects of the workshop training on participants' knowledge, attitudes, and behaviors. This task requires extensive efforts and consumes time in test piloting and revisions. Consequently, NET should consider developing a pool of good test items on various nutrition education topics; and should consider coordinating its effort in this respect with similar public programs.

4. It is not possible to change the behavior of the workshop participants through a single

4. It is not possible to change the behavior of the workshop participants through a single workshop intervention. Efforts must be directed to plan and schedule workshops in series to enforce the effect of one workshop on following workshops in the series. It is possible also to plan follow-up interventions in the form of consultations and visits to the participants' work facilities. If the participants were aware that sites may be visited a few months after the workshop, chances are greater that there would be some noticeable changes in behavior due to obligation and commitment to perform actions suggested during their participation in the workshops.

5. Workshop participants had positive attitudes which can eventually lead to behavior changes. It is also possible for change in behavior to lead to change in attitude. The combination of expressed behavioral intention and positive attitudes can have even greater impact in mediating behavior changes. If participants have a set plan or guidelines to follow after the workshops, they may be able to observe their own actions and infer that they indeed hold the attitudes implied by these actions, which would lead to change in their attitudes and behaviors. Thus, providing teachers with a formal plan and obtaining their agreement to follow it may be one way to increase the impact of the workshops.

6. Importance of developing and delivering AAT workshops to educators of young children can not be stressed enough. Educators influence children's attitudes and beliefs on nutrition education considerably. Since unlearning is much harder than learning, nutrition education needs to be provided at an early age to help children acquire good eating habits. Children who are taught to make healthy food choices will grow into adults who make healthy food choices.

IV. USE OF DISTRIBUTED FOOD... EARLY CHOICES KITS IN NUTRITION EDUCATION

INTRODUCTION

Background:

As mentioned in sections I and II of this report, one of NET's outreach interventions is distribution of supporting educational materials to educators and food service personnel who participate in one or more of the child nutrition programs; for their use in working with children. NET's efforts in distributing instructional materials is associated with instruction and training on how to use the materials effectively in educational settings, including cafeterias. The training is delivered in NET workshops by registered dietitians.

Distribution of instructional materials is intended to implement objectives of the NET Program. The State Plan of the NET Program for 1990 and 1991 states that one of the program's objectives is "... to reach at least 1,000 children with materials to support their nutrition learning. (objective 1.2, p.12)". To implement this objective, the plan suggested the dissemination of nutrition education and food service materials to schools and child care facilities that were represented in NET workshops. The Food... Early Choices kit is listed among these materials.

Two NET workshops use the Food... Early Choices kit as instructional material: 1) Food Early Choices-Chef Combo, a two hours workshop that is tailored to teachers and care givers of pre-K to K children in schools and day care centers; and 2) Nutrition for Children, a six hours workshop that is tailored to teachers and care givers of pre-K to K3 children in schools and child care facilities. Participants in these two workshops are instructed on methods and techniques of using the Food... Early Choices kit to teach children good eating habits.

NET workshop procedures for material distribution are to send one or two copies of basic instructional materials to the work facilities of workshop participants after a workshop is conducted. One copy is sent to the school or the child care facility if it was represented by less than five participants, and two copies if it was represented by five or more participants. Materials are sent to each facility for a year after which these specific materials are not sent for two consecutive years. The same procedures were followed in distributing the Food... Early Choices kit. Usually, an English version of the kit is sent to the participants' work facilities. A Spanish version of the kit is sent if the participants indicated that they need it to instruct hispanic children in nutrition education.

Purpose:

The present study was conducted to: 1) assess the value of distributing the food Early choices kit to the work facilities of workshop participants, and 2) measure the effectiveness of the workshop in training the participants on methods of using the kit for educating the children in their facilities. Thus, the study answers the following questions:

1. To what extent were the distributed kits used by the workshop participants to teach nutrition to the children in their facilities?

2. In the participants' opinions, how effective were the kits in teaching nutrition to the children?

3. What were problems participants encountered as they were using the kits?

4. What suggestions did the participants have to improve the use of the kit in the actual instructional settings?

METHOD

Sample:

A series of 28 "Food Early Choices" workshops were conducted between March and May, 1989. A sample was drawn from the participants in these workshops to ensure that those who were included in the sample had enough time to use the Food... Early Choices kit to instruct children in nutrition education, after participating in the workshop. Table (18) contains the number, function, and facilities of participants in this series of workshops.

Table (18) Participants In The Food Early Choices Workshop

Work Facility	Function					
	Educator	Food Service Personnel	Provider	Sponsor	Other Administrator	Total
Public School	5					5 1.1%
Private School	13	7				20 4.3%
Day Care Center	320	64		1	4	389 84.2%
RCCI	2	3			1	6 1.3%
Registered Family Home	3		1	3		7 1.5%
Other	17	2		6	7	32 6.9%
Missing		3				3 .6%
Total	360 77.9%	79 17.1%	1 .2%	10 2.2%	12 2.6%	462 100%

Table (18) indicates that the majority of the participants in the above mentioned series of workshops were educators who worked in day care centers. Only 28.4% of the participants were administrators and 17.1% were food service personnel. Fifty percent (231) of these participants were selected at random to form the sample of the study. Copies of the study instrument (i.e., an opinion survey) were mailed to the sample. Twenty-two surveys were returned due to inaccurate addresses or because the addressees were no longer at the indicated address. Two participants mentioned that they did not receive a copy of the kit, and a copy of the survey was returned because of a change in personnel. Only 55 participants completed the survey and sent it back. Table (19) contains the number and functions of the respondents; as well as the type of their work facilities.

Table (19) Respondents To The Food Early Choices Opinion Survey

Work Facility	Function				
	Educator	Food Service Personnel	Administrator	Missing	Total
Private School	5	2			7 12.7%
Day Care Center	29		15	1	45 81.8%
RCCI			1		1 1.8%
Registered Family Home			1		1 1.8%
Missing			1		1 1.8%
Total	34 61.8%	2 3.6%	18 32.7%	1 1.8%	55 100%

A comparison between the data in Table (18) and Table (19) indicates that percentages of educators, food service personnel, and administrators who responded to the opinion survey were approximately proportional to their percentages in the total population of workshop participants. Even though fewer educators and food service personnel and more administrators responded to the survey, differences in their numbers were not large enough to change the order of their representation in the sample.

Material:

Food... Early Choices kit:

The Food... Early Choices kit consists of 9 instructional tools, as follows:

1. Chef Combo: a hand puppet that plays a principal role in helping the educator move easily into nutrition education activities.

2. Learning Activity cards: two complete sets of cards that are composed of foods carefully selected to be combined into soups, salads, sandwiches, and other combination foods.

3. Spirit Master: a booklet that contains information on the nutrition of young children. The booklet is designed to help parents emphasize the nutritional concepts and habits their children acquire in the child care facilities.

4. Picture Cards: one hundred picture cards that show colorful photographs of foods commonly eaten and easily recognizable by children.

5. Puzzle cards: Two-piece puzzles designed for younger children. By matching two halves, a whole food is formed.

6. Playing Cards: two sets of cards that have illustrated foods on one side instead of the usual playing cards illustrations.

7. Where and How We Get Our Food booklet: a 24-page booklet that contains pictures of foods and where they come from.

8. Growing-up Poster: a two-part series of pictures that illustrate children at various stages of development.

9. Record: a three-band 33 1/3 RPM record of children songs about food. Sheet music for the recorded songs is printed on the record jacket.

The kit is part of a complete nutrition system for early childhood, and it comes with a teacher guide that suggests several activities and methods of using the kit's components. The system provides a variety of opportunities to teach young children about food and good eating habits.

Opinion Survey:

An opinion survey was developed to assess the extent and effectiveness of using the Food... Early Choices kits that were distributed to the facilities of the selected sample. The survey consisted of two main sections: 1) a general information section which consisted of items that were related to the participants' work function, work experience, and the children they instructed, and 2) an evaluation section which consisted of items that were directly related to the extent and effectiveness of the kit's use.

The second section of the survey was intended to evaluate the kit as a whole as well the kit's components. This section also included items that asked the participants if they encountered problems while using the kit, and asked for their suggestions on how to improve the effectiveness of the kit as an instructional tool. A copy of the survey is included in Appendix C of this report.

Procedure:

Forty one English, and 10 Spanish copies of the kit were distributed to the work facilities of participants in the Food Early Choices workshop. A copy of the survey was mailed to the selected sample on 6/6 and 6/7 1990, about one year after distributing the kits to the participants' work facilities. A cover letter and a postage-paid envelope were attached to each copy of the survey. The cover letter instructed the sample to contact the coordinator of the NET Program if they had any questions. Several recipients of the survey called the coordinator and informed her that they did not receive a copy of the kit and asked for one.

Statistical Analyses:

The number and percentage of respondents to each item on the survey were calculated. One way chi squares were conducted to test significance of deviations between the observed frequencies and the expected frequencies of variables such as the effectiveness of the kit's components. Two-way chi square tests of significance were conducted to assess the effect of variables--such as children's age and respondents's experience--on the responses to certain items on the survey--such as the number of times the kit was used and suggested modifications on the way the kit components were used. The SPSS-X procedures for conducting the statistical analyses and the cross-tabulations were used.

RESULTS AND DISCUSSION

General Information:

Respondents Experience:

The workshop participants represented in the sample were asked about their years of experience at their present jobs. Analyses of their responses indicated that the respondents' experience ranged from two to 26 years, with a median of 8 years and a mode of two. Thus, all the respondents had at least two years of job experience, and none of them were a Novice.

Chi square test of significance indicated that difference in years of experience did not affect the number of times the kit or its components were used. No significance difference was found between years of experience and how the kit or its components were used. These results support the notion that two years of experience are adequate for educators in this field.

Number of Children Under Respondents' Care:

The number of children under the care of the respondents ranged from 10 to 564 children, with a mode of 30 children and a median of 32. The lower limit of the range (10) is expected from educators in child care centers. The upper limit of the range (564) is also expected from the administrators represented in the sample. The mode and the median, however, were relatively high as the majority of the respondents were educators in child care facilities that require a smaller children to educator ratio.

Children's Age:

The age of the youngest child under the respondents care ranged from less than one month to 9 years, with a mode of 3 years and a median of 2 years. The age of the oldest child under the respondents care ranged from one year to 17 years. Thus, some of the child care facilities cared for grade school children after school.

Frequency of Using the Kits:

The first question of this study was: To what extent were the distributed kits used by the workshop participants to teach nutrition to the children in their facilities?. Five items on the opinion survey were developed to answer this question. Table (20) summarizes the sample's response to item 1: How many copies of the "Food... Early Choices" kit are there in your facility?

Table (20) Number Of Kits In The Respondents Facilities

Number Of Kits	Number Of Facilities	Percent Of Facilities
1	29	52.7%
2	13	23.6%
3	5	9.1%
10	1	1.8%
None	5	9.1%
Missing	2	3.6%
Total	55	100%

Table (20) shows that about half (52.7%) of the respondents' facilities owned only one copy of the kit, and over 75% of the facilities owned either one or two copies. About 9% of the respondents, however, said that they did not have a copy of the kit in their facilities. If we considered this number of respondents and the number of workshop participants who did not respond to the survey for this same reason we may conclude that a sizable number of the distributed kits were lost in the mail or for some reason were not made available to the workshop participants. Possible reasons for the unavailability of the kit are that more than one educator needed to use the kit at the same time, or that the kit was placed where it was not visible or not readily available to the educators when needed.

When the respondents were asked if they had ever used the kit with the children under their care (item 2 on the survey) 49 participants (89.1%) said they did. Only four participants said they did not use the kit, most likely because it was not available to them at the time they needed to use it.

The respondents were then asked which version(s) of the kit they usually used (item 3). Forty three respondents (78.2%) said that they used the English version. Six respondents (10.9%) said that they used both the English and the Spanish versions. Thus, both versions of the kit were used to instruct children in nutrition education.

In response to the question: Approximately how many times did you use each version (item 4) the respondents said that they used the English version a total of 427 times and the Spanish version a total of 37 times. In other words, the English version was used over 10 times more than the Spanish version.

It may be remembered that 41 English kits and 10 Spanish kits were distributed to the work facilities of workshop participants. Since the number of distributed English kits is only over three times more than the number of the distributed Spanish version, it may be concluded that use of the different versions was not proportional to the number of versions distributed. Using the English version more often than the Spanish version is understandable since educators would use both versions with Hispanic children who are not familiar with the English words and phrases related to the kit. As the Hispanic children become more proficient in English, the educators would use the English version alone; to promote the interactions between the Hispanic children and the English speaking children.

Figure (9) illustrates the number of times each of the kit's components was used by the respondents.

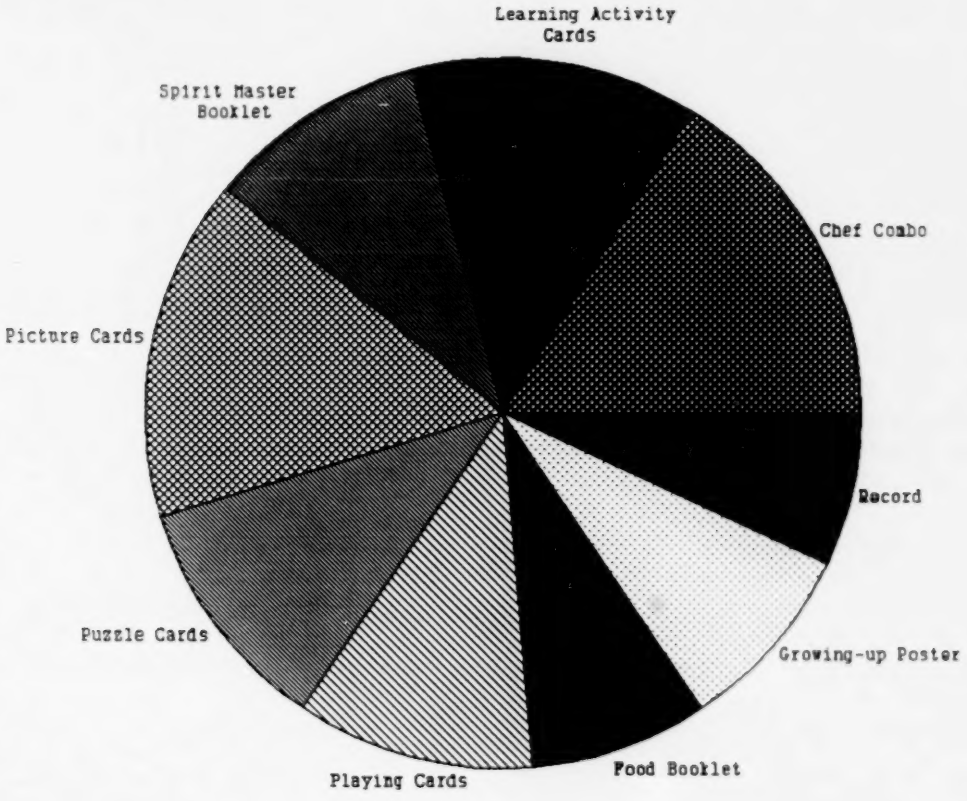

Figure 9 Number Of Times Each Component Was Used

It is apparent from Figure (9) that all the kit's components were used considerable number of times. The number of times each component was used ranged from 148 times (the record) to 351 times (the Chef Combo puppet). The most frequently used components were the Chef Combo puppet, followed by the Picture Cards, followed by the Learning Activity Cards.

Effectiveness of Using the Kit:

The second research question was: In the participants' opinions, how effective were the kits in teaching nutrition to the children? Items 6 and 7 on the opinion survey were developed to answer this question. Figure (10) illustrates the respondents' reactions to item 6: How effective was each component in teaching nutrition to the children under your care?

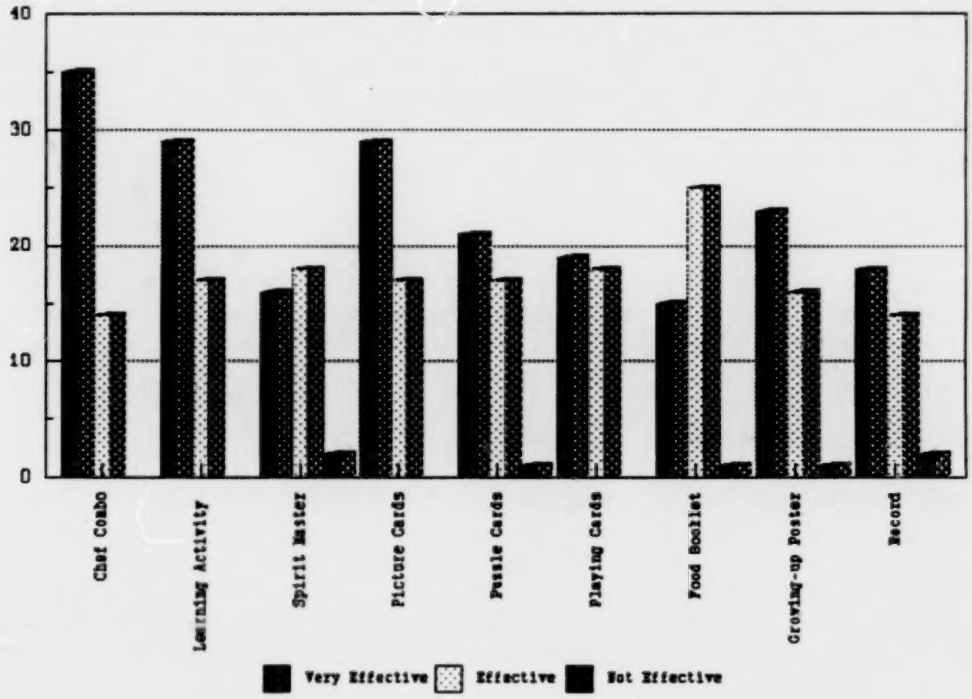

Figure (10) clearly indicates that most of the respondents estimated that the kit's components were either very effective or effective. Very few respondents (one or two) thought that the Spirit Master booklet, the Puzzle Cards, the Where and How We Get Our Food booklet, and the record were not effective, probably due to the age of the children they cared for.

One way the chi square statistic was conducted for each kit component was to find out if there is a significant difference in the number of respondents who selected each category (i.e., very

effective, effective, and not effective). The chi square test was significant with respect to all components. The number of respondents who rated the components as either very effective or effective was significantly more than the number of respondents who rated then as not effective.

The respondents were asked if they used the kit and its components exactly as suggested to them during the workshop (item 7). Thirty five respondents said that they did, while about one third of the respondents (13 respondents) said that they did not.

When the respondents were asked what modifications they made if they did not use the kit exactly as suggested, two respondents said that they used Chef Combo to elaborate on the concepts already acquired by the children. Between one and three respondents said that they also used the Spirit Master booklet, the Picture Cards, the Playing Cards, and the Growing-up poster for elaboration and enrichment. One respondents said that Chef Combo was used to initiate discussions about nutritional concepts, and two respondents said that they also used the Where and How We Get Our Food booklet and the Growing-up poster to initiate discussion. Two respondents said that they tailored the use of the record to the classroom situation and three said that they replaced the Growing-up poster with other posters. One respondent said that the puppet was used as an authority figure to advise the children on foods that are good for them.

Thus, few respondents felt a need for modifying the methods suggested for using the kit's components, and most of the modifications were made by using the components to enrich the classroom activities. Using the puppet as an authority figure is a unique and effective way to instruct children on good food choices. In general, however, the majority of the respondents considered all the kit's components to be effective in instructing children on nutrition education.

Problems Encountered When Using the Kit:

The third research question was: What were the problems that the participants encountered as they were using the kits?. Items 8 and 9 on the opinion survey were developed to answer this question. Item 8 asked the workshop participants if they encountered any problems connected with the kit while using it. Forty eight respondents (92.3%) said that they did not encounter any problems, while two respondents said that they did. When asked to specify the problems they encountered the two respondents said that all the children under their care wanted to play with the Chef Combo puppet at the same time.

Item 9 on the survey asked the participants if they felt that they needed any skills or knowledge to use the kit that were not covered in the workshop. Almost all the respondents (51 respondents) said they did not. Two respondents said that they needed more puppetry skills to use Chef Combo more effectively.

It is obvious from the above mentioned results that the respondents did not encounter any real problems as they were using the Food... Early Choices kit. The only "problem" the respondents had stemmed from the popularity of the Chef Combo puppet, and the interest the puppet created in the children. There seems to be a need to include more puppets in the kit. Chef Combo may have a helper or a wife and kids that provide more opportunities for the

children to handle the puppets and use them to enact varied roles that enrich the classroom activities and discussions. Providing more puppets would necessarily require more puppetry skills, but it will also help enhance and emphasize needed puppetry training.

Suggestions for Using the Kit:

To answer the fourth question of this study (i.e., What suggestions did the participants have to improve the use of the kit in the actual instructional settings?) Item 10 on the survey asked the participants for their suggestions. Following is a list of suggestions the respondents gave.

More kits (English and Spanish versions)
Use Chef Combo to introduce new foods
Laminate the Growing-up poster
Include arts and crafts in the activities
Include classroom recipes
Include more food games
Provide more puppetry instructions
Use correct Spanish food names in the Spanish version of the kit

All suggestions seems plausible even though each suggestion was given by one or two respondents.

Apparently, there is a need for more kits since a sizable number of workshop participants claimed that they did not use the kit because it was not available in their work facilities. As mentioned above, shortage in the number of kits may be due to: 1) loss of copies of the kit in the mail, 2) storing the kits in a place that is not within an easy access to the participants such as the manager's office, or 3) distributing less copies of the kit in each facility than needed by all educators in the facility. The last two possibilities seem more plausible. Copies of the kit were mailed to the manager of each facility and workshop participants were not notified of the mailing. In addition, over 75% of the participants said that there were either one or two copies of the kit in their work facilities, not enough to cover the needs of all educators in these facilities.

Including more classroom activities based on the various components of the kit would increase the effectiveness of the kit in nutrition education. All suggested activities are suitable for children and would actively involve them in the learning process. Since learning is an active process on the part of the learner, more learning is expected to result from including these activities.

On the other hand, laminating the Growing-up poster and using correct Spanish terminology would improve the quality of the kit as an instructional tool. Several participants mentioned that they had to replace the poster when they were using the kit.

The need for more puppetry instruction was cited as one of the problems that faced the respondents while they were using the kit. Since puppets are effective learning tools for young children, educators of these children should be proficient in puppetry skills.

RECOMMENDATIONS

1. Since a sizable number of workshop participants indicated that the kit was not available for them to use, there seems to be a need to send more copies of the kit to the participants' facilities. In the meantime, participants ought to be notified when these copies of the kit are sent to the manager of the facility.

2. Even though some of the kit's components such as Chef Combo and the Learning Activity Cards were used relatively more than other components, e.g., the record; all components were used frequently and effectively. These results suggests that all components are needed to realize the objectives of using the kit.

3. Including more games, classroom recipes, and arts and crafts--as suggested by the respondents--would increase the effectiveness of the kit in nutrition education. These activities are suitable for children and would actively involve them in the learning process. Since learning is an active process on the part of the learner, more learning is expected to result from including these activities.

4. The popularity of the Chef Combo puppet, and the interest the puppet created in the children points to a need to include more puppets in the kit. Chef Combo may have a helper, or a wife and kids. These extra puppets would provide more opportunities for the children to enact varied roles that would enrich classroom activities and discussions.

5. The need for more puppetry instruction was cited as one of the problems that faced the respondents as they were using the kit. Since puppets are effective learning tools for young children, and since there is a need to include more puppets in the kit; the Food Early Choices workshop should enhance the puppetry skills of its participants.

6. As suggested by the respondents, laminating the Growing-up poster and using correct Spanish terminology would improve the quality of the kit as an instructional tool.

V. GENERAL EVALUATION OF THE NET PROGRAM

INTRODUCTION

Background:

Formal evaluation of the Texas NET program was initiated in October 1984, to meet federal requirements for program evaluation and to collect information that helps make the program as effective as possible. Since then, a number of studies have been conducted each year to develop information the General Accounting Office cited in 1982 as being necessary to:

- o effectively administer the program
- o guide program revisions and planning
- o ensure that federal funds are spent effectively
- o supply the USDA with data to submit to Congress to aid decisions about how to apportion scarce resources.

During FFY 1990, four studies were conducted to answer the following questions about performance of the Texas NET Program:

1. To what extent did the NET Program achieve its participation goals during FFY 1990?
2. How effective was the Nutrition for Children workshop in helping the participants master nutrition knowledge and attitude learning objectives?
3. How often and how effective were distributed Food... Early Choices kits used to teach nutrition education to children under the care of participants in the Food Early Choices workshop?
4. How effective is the Texas NET Program in achieving its goals, relative to its resources?

The first three questions were answered in the previous three sections of this report. The fourth question is answered in this section.

Purpose:

The purpose of this study, then, was to assess the overall program performance for the FFY 1990. The results of the evaluations conducted during the year were combined to produce an index of the program effectiveness. Key questions answered in this general evaluation of the

program were:

1. Relative to its resources, was the overall effect of the Texas NET Program in 1990 positive, negative, or nonsignificant?

2. Did the program promote positive changes in child nutrition related knowledge and attitudes, and consequently behaviors of significant numbers of individuals in NET's priority populations?

3. What were the strengths and weaknesses of overall program performance during FFY 1990?

PROGRAM RESOURCES

Two main resources of the Texas NET Program are its budget, which provides the material resource; and its staff, which provides the human resource. Table (21) summarizes and compares the program's resources for the past six years.

Table (21) Texas NET Program Resources For the Past Six Years

Resources	FFY85	FFY86	FFY87	FFY88	FFY89	FFY90
BUDGET	294,060	294,060	295,860	315,290	315,000	318,642
STAFFING						
Coordinator	1.000	.300	.125	.750	1.000	1.000
Program Specialists	2.000	1.500	2.000	2.000	2.000	1.500
Evaluator	1.000	1.000	1.000	.850	1.000	1.000
Clerical And Automation Support	3.000	2.670	3.000	3.000	2.500	3.000
Consulting Nutritionists	2.000	1.900	1.800	1.600	1.600	1.600
Total Staff	9.000	7.370	7.925	8.200	8.100	8.100

It is apparent from Table (21) that NET Program funding increased slightly over 1989. This increase brings the 1990 budget only 7.3% over the program's budget for FFY 1985. This increase does not reflect the inflation rate or the expansion in the program's activities during the past five years. In addition, the USDA's funding formula for the NET Program is based on the number of school children in the state. In Texas, the number of children attending public schools grew from 2,884,000 in 1985 to 3,278,397 in 1990 (i.e., over 13.7%).

At the same time, organizational and budget constraints have generated a reduction in NET staffing from nine full-time equivalent positions in 1985 to approximately eight in 1990. The main reduction was reflected in the Workshop Coordinator (Program Specialist) position, which

was reduced from one full-time equivalent to a half-time equivalent; and in the number of contracted workshop instructors. It may be noticed also that due to the low budget of the program and to organizational constrains, staff benefits are not competitive. This resulted in high turnover in the program staff and the inability to immediately fill vacant positions. For example, the Evaluator's position remained unfilled for about three months, and the Workshop Coordinator position was vacant for about four months.

PROGRAM ACTIVITIES

Table (22) summarizes the main activities of the program since 1985.

Table (22) Texas NET Program Activities In The Past Six Years

Activities	FFY85	FFY86	FFY87	FFY88	FFY89	FFY90
WORKSHOPS						
Developed	2	2	3	1	2	2.0
Conducted	165	145	185	183	112	103.0
LIBRARY						
Acquisitions			180	420	68	304.0
Items Circulated/Month	70	100	100	150	189	231.4
Borrowers/Month	6	25	20	50	60	53.2
Catalogs Distributed	10,000	12,000	680	200	632	490.0
MATERIALS						
Acquisitions	5	5	15		5	5
Distributions	9,700	10,800	12,800	17,200	11,800	11,776
SPECIAL PROJECTS						
Mini-grants/Development Contracts	3	3	2	0	1	2
Evaluation/Needs Assessment Studies	6	7	6	5	5	5
Persons Reached	6,200	9,700	10,900	10,300	23,343	25,760

Table (22) shows that in spite of constraints on program resources the program's activities continued to expand in most areas. Workshop activities were affected, however, by the reduction in staffing. The number of workshops conducted dropped from 165 workshops in

1985 to 103 workshops in 1990, a reduction of more than 37.6%. And even though two workshops were developed in 1990, only one was scheduled during the second half of this year.

Acquisition and circulation of library materials increased considerably over 1985 and 1989, perhaps due to the relative stability and growth of the resources allocated to the library. In 1990, library acquisitions were more than four times those of 1989. Monthly circulation of library items were more than four times the items circulated in 1985, and 22.4% more than those circulated in 1989. Number of borrowers and catalogs distributed were slightly less in 1990 than in 1989.

Material acquisition and distribution as well as other aspects of program activities such as the mini grants and evaluation studies fluctuated slightly during the past six years and stabilized during 1989 and 1990. The only noticeable improvement in the program activities in 1990, beside the library acquisitions and circulation, was the program outreach. In 1990, the NET Program outreach was more than four times its outreach in 1985, and 10.4% more than its outreach in 1989.

Considering the program's activities relative to its resources, one must conclude that the program is administered efficiently, and that it is realizing its goals.

META-ANALYSIS OF PROGRAM OUTCOMES

Results of evaluations of specific NET activities were integrated to develop an index and analysis of overall effectiveness of program performance in 1990. The vote counting method for program meta-analysis was applied to integrate results of evaluations conducted during FFY 1990. These evaluations included varied data collection and analysis procedures that were described in detail in the previous sections of this report. Following is a summary of these procedures:

- To estimate the effectiveness of the program in achieving its participation goals for FFY 1990, goals were set for each of the program's major activities and for each of its target populations. Participation goals were estimated based on current priorities, current staffing, and prior participation figures.

- Scores of pretest, post test, and follow-up test were compared to determine the effect of the Nutrition for Children workshop on participants' mastery of knowledge objectives. Criterion references were set for acceptable and mastery performances as measured by the participants' performance on the knowledge tests. Statistical significance of observed gains was evaluated using repeated measure analysis of variance.

- Average attitude values before and after the workshop were compared and evaluated against pre-set criterion references. Statistical significance of changes in attitude scores were evaluated using a T-test.
- Percentages of participants who responded negatively or positively to four scaled items

on a training report were calculated, and chi square tests of significance were conducted to estimate the participants' satisfaction with the workshop.

- To estimate the frequency and effectiveness of using the Food... Early Choices kit in teaching nutrition education, the number and percentage of respondents to each item on an opinion survey were calculated. Chi square tests of significance were conducted to assess variance between observed and expected numbers of participants who selected each point on a rating scale; and to assess the effect of respondents' experience and age of the children they taught on their responses to items on the survey.

RESULTS AND DISCUSSION

To apply the vote counting method for integrating results across these separate evaluations, counts were made of all findings that were significantly positive, negative, or nonsignificant. Tallies were compared and the modal category accepted as giving the best estimate of NET Program effectiveness. Table (23) summarizes the results of the meta-analysis.

Table (23) Results Of Meta-Analysis Of Program Outcomes

Activity	Data Analysis	Indicator	Result
Workshops:			
	Goal-percentage	Number of nutrition workshops	Positive
	Goal-percentage	Number of food service personnel workshops	Positive
	Goal-percentage	Number of workshop participants	Positive
	Goal-percentage by target population	Number of workshop participants from public schools	Negative
	Goal-percentage by target population	Number of food service personnel participating in workshops	Positive
	Goal-percentage by target population	Number of sponsors and providers participating in workshops	Positive
	Goal-percentage by target population	Number of public school children reached	Positive
Lending Library:			
	Percentage increase over 1989	Total circulation	Positive
	Goal-percentage by target population	Number of public school children reached	Positive
	Goal-percentage by target population	Number of children reached in child care facilities	Negative
	Rating scale on borrowers feedback form	Substance of borrowed materials	Positive
	Rating scale on borrowers feedback form	Usefulness of borrowed materials	Positive
	Rating scale on borrowers feedback form	Borrower's satisfaction	Positive
Development and Distribution of Instructional Materials:			
	Percentage increase over 1989	Number of materials developed	Negative
	Percentage increase over 1989	Number of materials distributed	Nonsignificant
Presentations, Exhibits, and Fairs:	Goal-percentage	Number of fairs	Positive
	Percentage increase over 1989	Number of publications	Positive

Table (23) Continued

Activity	Data Analysis	Indicator	Result
Coordination with Related Programs:	Percentage increase over 1989	Number of meetings	Positive
Nutrition for Children Workshop:	Pre/post/follow-up comparisons using repeated measures analysis of variance	Test scores on knowledge tests	Positive
	Pre/post comparisons using an independent T-test	Total scores on attitude scales	Positive
	Criterion referenced comparisons of pre, post, and follow-up tests	Total scores on knowledge post test	Positive
	Criterion referenced comparisons of pre and post attitude scale	Total scores on post attitude scales	Positive
	Mean rating scores on the training evaluation report	Satisfaction with workshop objectives	Positive
	Mean rating scores on the training evaluation report	Satisfaction with workshop presentation	Positive
	Mean rating scores on the training evaluation report	Satisfaction with workshop interactions	Positive
	Mean rating scores on the training evaluation report	Satisfaction with workshop content	Positive
	Mean rating scores on the training evaluation report	Satisfaction with workshop materials	Positive
Use of Food Early Choices Kit in Nutrition Education:			
	Percentage of respondents who reported that they used the kit compared to percentage of those who reported that they did not	Number of times the kit was used	Positive
	Number of times each of the component was used	Number of times each component was used	Positive
	Ratings of the effectiveness of each component on a three-point scale using a chi square test of significance	Estimated effectiveness of each component	Positive
	Percentage of respondents who felt a need for modifying the methods suggested for using the kit	Effectiveness of suggested methods for using the kit	Positive
	Percentage of respondents who encountered problems when using the kit compared to those who did not	Effectiveness of training on using the kit	Positive

Table (23) indicates that when data were integrated across the evaluations conducted during FFY 1990 it revealed an overall positive impact of the NET Program in Texas. Thirty three evaluations were conducted to estimate the effectiveness of the main aspects of the program. Twenty nine of these evaluations were positive, one was nonsignificant, and only three outcomes were negative. The negative results were mostly due to failure of the program to prioritize its outreach to the different target populations rather than to a decline in the quality or extent of services.

Evaluation of program outreach showed that all participation goals were attained except two: 1) public school participants in NET workshops, and 2) children in child care facilities that were reached by the library resources.

The number of public school educators who participated in the workshop fell short of reaching the set goal because two AAT workshops were scheduled for 1990, yet one of these workshops (Nutrition and Life Sciences) was cancelled, and the other one (Nutrition for Children) was not scheduled until the second half of 1990. Shortage in staff caused a delay in workshop development, which negatively affected NET's outreach to public school educators as well as the number of materials developed during FFY 1990. And since materials are distributed to the facilities of the workshop participants, the number of materials distributed in 1990 was also affected.

Although one of the library evaluation outcomes suggested a need for continued attention to promoting its services to educators in child care facilities, the lending library collection attracted more patrons and circulated more nutrition and food service management materials during 1990 than in any previous year.

In 1990, the NET Program also made large strides toward improving coordination with other public sector programs and agencies engaged in child nutrition activities such as TEA and TDMHMR, and toward publicizing its services state wide. Effects of such efforts are expected to materialize in the form of a substantial increase in NET's outreach during the subsequent years.

On the other hand, NET workshops were found in the past five years to be reliable means for improving child nutrition related knowledge and attitudes of educators and food service personnel, in schools and child care facilities. Likewise, evaluation of the Nutrition for Children workshop indicated that the workshop was effective in promoting desired changes in child nutrition related knowledge and attitudes of workshop participants. In addition, participants expressed their satisfaction with the training they received during the workshop, which would positively influence their behavior that is related to their acquired knowledge and attitudes.

The outcomes of all the analysis that were conducted to assess frequency as well as effectiveness of using the Food... Early Choices kit by workshop participants were positive. The majority of the respondents used the kit and all its components to instruct children in nutrition education. Significantly more respondents rated the components of the kit as very effective in teaching nutrition education. On the contrary, significantly less respondents stated that they needed skills or faced problems as they were using the kit. These outcomes suggests the positive effect of material distribution on achieving goals of the NET Program.

RECOMMENDATIONS

1. Stability in program staffing and administration is needed to expand the program services and to maintain the quality of these services. In order to achieve this stability, serious consideration must be given to the program budget. Since all program services are offered free of charge to nonprofit organizations, a charge may be procured from organizations that provide nutrition related services to children for profit, such as private schools and child care centers. In addition, other sources of funding such as grants and donations may be given serious consideration.

2. Since priorities are set for reaching different target populations in the NET state plan, an action plan must follow to specify suitable means of implementation. The program staff must systematically identify, implement, and evaluate procedures periodically to assess the effectiveness of these procedures in reaching the targeted priority populations, and to improve them if necessary to achieve the stated goals.

3. In addition to an action plan for the entire NET Program, yearly action plans must be outlined for the two major program interventions (i.e., the workshops and the lending library). Workshop development and scheduling must be planned well ahead of time to avoid cancellation of advertised services.

4. Since the last needs assessment study was conducted in 1984, there is a need to conduct a major needs assessment study to identify NET services required for various target populations, including direct services to children and their parents. The study would provide direction in setting goals and priorities for the NET Program.

APPENDIX A

EVALUATION INSTRUMENTS OF THE NET PROGRAM OUTREACH

WORKSHOP REGISTRATION FORM

General Information (please print)

Name of Workshop: _____ Date: _____

Your Name: _____

Sex: Male____ Female _____

Ethnic Origin: White____ Black____ Hispanic_____
Asian/Pacific Islander_____ American Indian/Alaskan Native_____

Your Social Security Number: _____

Name of Your Work Facility: _____

Work Address: _____
Street or P.O. Box

_____
City State Zip Code

Work Telephone Number: _____
Area Code

Please circle the number next to the answer you choose.

1. For what type of facility do you work?
   1 Public school
   2 Private grade school
   3 Day care center
   4 Family day home
   5 RCCI
   6 Other. Please specify: _____

2. What is your function?
   1 Educator (a teacher, administrator, health educator, teacher aide, nurse, and other personnel who work in instructional capacity)
   2 Food service personnel (a person who is employed on a full or part-time basis in the supervision, preparation, planning, or service of meals for children)
   3 Parent or guardian (natural or legal parent, foster parent and/or other adult with full responsibility for a child's care)
   4 Other. Please specify: _____

3. Approximately how many children do you teach, care for, supervise, or prepare meals for when performing the above mentioned function?
   _____children

4. In what food program(s) does your facility participate?
   1 Child Care Food Program
   2 National School Lunch Program
   3 School Breakfast Program
   4 Special Milk Program
   5 Summer Food Service Program
   6 None.

THANK YOU!

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LIBRARY EVALUATION FORM

Please fill out this form and return it with the material you borrowed. Your response will help us improve our services.

General Information (please print)

Title of Borrowed Item: _____ Date: _____

Your Name: _____

Please circle the number next to the answer you choose.

1. For what type of facility do you work?

1	Public school	4	Family day home
2	Private grade school	5	RCCI
3	Day care center	6	Other. Please specify: _____

2. What is your function?

1 Educator (a teacher, administrator, health educator, teacher aide, nurse, and other personnel who work in instructional capacity)
2 Food service personnel (a person who is employed on a full or part-time basis in the supervision, preparation, planning, or service of meals for children)
3 Parent or guardian (natural or legal parent, foster parent and/or other adult with full responsibility for a child's care)
4 Other. Please specify: _____

3. Who and approximately how many saw the item you borrowed?

	WHO	HOW MANY
1	Self.....	_____
2	Children in your facility	_____
3	Co-workers.....	_____
4	Food service personnel...	_____
5	parents or guardians.....	_____
6	Others. Please specify: _____	_____

4. How did you learn about the NET Library?

1 By attending a NET workshop
3 From a friend or co-worker
3 At a professional meeting or conference
4 Other. Please specify: _____

5. What is your overall rating of the borrowed item?

	Poor	Fair	Good	Excellent
The item's content.....	1	2	3	4
The way the content was presented.....	1	2	3	4
How useful was the item to those who saw it.....THANK YOU!.....	1	2	3	4

APPENDIX B

EVALUATION INSTRUMENTS OF THE NUTRITION FOR CHILDREN WORKSHOP

N U T R I T I O N F O R C H I L D R E N

Office Use Only

Type
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1 2 3
Version
1 2 3
Workshop ID:

Exercise:____
Your Social Security Number:

_____-_____-_____

Today's Date: Mo/Day/Yr

_____/_____/_____

D I R E C T I O N S: Read each item carefully. For each item **CIRCLE** the number next to the **ONE BEST ANSWER.**

. Which of the following terms are included in the USDA "Dietary Guidelines for Americans"?

1. Maintain weight by choosing strict dietary regimens
2. Avoid Too Much Fat, Saturated Fat, and Cholesterol
3. Eliminate sugar and sodium
4. Exercise three times a week
5. All of the above

. According to the Bogalusa Heart Study what percentage of kilo calories from fats makes up a child's diet?

1. 49%
2. 13%
3. 39%
4. 15%
5. 25%

. Which of the following statements is true?

1. Nutrition labels must list the percentage of calories derived from fat.
2. Nutrition labels must list name and place of business or the manufacturer, packer, or distributor.
3. Ingredients are listed in order of amount present in food.
4. All of the above
5. 2 and 3

4. Which of the following equations is true?

   1. 1 cup of milk = 2 cups cottage cheese
   2. 1 egg = 2-3 oz cooked fish
   3. 1 cup soup = 1/2 cup macaroni and cheese
   4. 1 slice of bread = 1 hamburger bun
   5. 1 cup of juice = 1 medium apple

5. Which of the following describes the three major nutrition-related health problems of young children?

   1. Iron-deficiency anemia, obesity, and dental carries
   2. Colds, diarrhea, and dental carries
   3. Iron-deficiency anemia, bulimia, and obesity
   4. Anorexia, colds, and dental carries
   5. Anorexia, bulimia, and diarrhea

6. Which of the following is the most nutritious snack for a child?

   1. Chicken sandwich on whole wheat with orange juice
   2. Peanut butter and soda crackers with fruit drink
   3. Graham crackers with honey butter and milk
   4. Oatmeal cookie and whole milk
   5. Ham sandwich with apple juice

7. The "Snack Center" should:

   1. be open any time of the day for the children
   2. not made available for independent use by the children
   3. have nutritious snacks that follow the Dietary Guidelines
   4. have detailed instructions and rules for children to follow
   5. all of the above

8. Which of the following is likely to influence eating habits of young children?

   1. parents
   2. nutrition education
   3. other children at the table
   4. shapes and textures of foods served at the table
   5. all of the above

9. For school-age children, what is the number of daily servings recommended from the meat group?

   1. five
   2. four
   3. three
   4. two
   5. one

10. Which of the following diet recommendations can reduce the risk of disease?

1. Eat less fat, increase vitamin and mineral supplements, control calories, reduce sodium, reduce sugar
2. Increase starch and fiber, reduce sodium, increase iron, control alcohol, increase vitamin C
3. Eat less fat, control calories, increase starch-fiber, reduce sodium, and control alcohol
4. Increase starch-fiber, reduce cholesterol, increase calcium, reduce vitamin C, increase iron
5. Eat less fat, increase Vitamin A, increase iron, reduce sodium, control alcohol

11. Which of the following is the "goal" for percentage of calories from fat in the American diet?

1. 55%
2. 15%
3. 30%
4. 37%
5. 20%

12. Nutrition labeling is important because:

1. it informs the consumer of important nutrient information
2. it provides information about number of calories and grams of protein, carbohydrate, fat, and sodium, listed in this order, in one serving
3. it provides sodium information
4. it may list optional nutrition information
5. all of the above

13. Which of the following is a current dietary recommendation for children who are 2-4 years old?

1. decrease protein intake by 3%
2. increase fat intake by 9%
3. decrease saturated fat intake by 2%
4. decrease carbohydrate intake by 6%
5. slightly decrease sodium intake

14. Which of the following statements is not true about diet and the risk of disease?

1. eat less fat to decrease the risk of cancer, stroke, diabetes, and GI disease
2. eat more starch and fiber to decrease the risk of cancer, diabetes, and GI disease
3. reduce sodium to decrease the risk of heart disease and stroke
4. control calories to reduce the risk of cancer, diabetes, and GI disease
5. reduce starch and fiber to decrease the risk of stroke, diabetes, and GI disease

15. The Nutrition Education and Training (NET) Lending Library Collection:

1. can only be used by persons who have attended NET workshops
2. is a good resource to use when developing classroom activities to teach nutrition
3. restricts use of the materials to schools and child care centers
4. charges a small fee for checking out materials
5. all of the above are correct

THANK YOU!

N U T R I T I O N F O R C H I L D R E N

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1	2	3
Workshop ID:		

Exercise:____

Your Social Security Number:

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Today's Date: Mo/Day/Yr

_____/_____/_____

D I R E C T I O N S: Read each item carefully. For each item **CIRCLE** the number next to the **ONE BEST ANSWER.**

1. Which of the following is the most nutritious snack for a child?

   1. Peanut butter and soda crackers with fruit drink
   2. Chicken sandwich on whole wheat with orange juice
   3. Ham sandwich with apple juice
   4. Graham crackers with honey butter and milk
   5. Oatmeal cookie and whole milk

2. For school-age children, what is the number of daily servings recommended from the meat group?

   1. one
   2. two
   3. three
   4. four
   5. five

3. Which of the following terms are included in the USDA "Dietary Guidelines for Americans"?

   1. Eliminate sugar and sodium
   2. Maintain weight by choosing strict dietary regimens
   3. Avoid Too Much Fat, Saturated Fat, and Cholesterol
   4. Exercise three times a week
   5. All of the above

4. Which of the following statements is not true about diet and the risk of disease?

   1. reduce starch and fiber to decrease the risk of stroke, diabetes, and GI disease
   2. eat less fat to decrease the risk of cancer, stroke, diabetes, and GI disease
   3. control calories to reduce the risk of cancer, diabetes, and GI disease
   4. eat more starch and fiber to decrease the risk of cancer, diabetes, and GI disease
   5. reduce sodium to decrease the risk of heart disease and stroke

5. Which of the following statements is true?

   1. Nutrition labels must list name and place of business or the manufacturer, packer, or distributor.
   2. Nutrition labels must list the percentage of calories derived from fat.
   3. Ingredients are listed in order of amount present in food.
   4. 2 and 3
   5. All of the above

6. Which of the following is the "goal" for percentage of calories from fat in the American diet?

   1. 15%
   2. 20%
   3. 30%
   4. 37%
   5. 55%

7. Which of the following diet recommendations can reduce the risk of disease?

   1. Eat less fat, increase Vitamin A, increase iron, reduce sodium, control alcohol
   2. Eat less fat, control calories, increase starch-fiber, reduce sodium, and control alcohol
   3. Eat less fat, increase vitamin and mineral supplements, control calories, reduce sodium, reduce sugar
   4. Increase starch and fiber, reduce sodium, increase iron, control alcohol, increase vitamin C
   5. Increase starch-fiber, reduce cholesterol, increase calcium, reduce vitamin C, increase iron

8. According to the Bogalusa Heart Study what percentage of kilo calories from fats makes up a child's diet?

   1. 13%
   2. 15%
   3. 25%
   4. 39%
   5. 49%

9. The Nutrition Education and Training (NET) Lending Library Collection:

   1. is a good resource to use when developing classroom activities to teach nutrition
   2. can only be used by persons who have attended NET workshops
   3. charges a small fee for checking out materials
   4. restricts use of the materials to schools and child care centers
   5. all of the above are correct

10. Which of the following describes the three major nutrition-related health problems of young children?

   1. Anorexia, bulimia, and diarrhea
   2. Iron-deficiency anemia, obesity, and dental carries
   3. Colds, diarrhea, and dental carries
   4. Iron-deficiency anemia, bulimia, and obesity
   5. Anorexia, colds, and dental carries

11. Which of the following equations is true?

   1. 1 egg = 2-3 oz cooked fish
   2. 1 cup of milk = 2 cups cottage cheese
   3. 1 slice of bread = 1 hamburger bun
   4. 1 cup soup = 1/2 cup macaroni and cheese
   5. 1 cup of juice = 1 medium apple

12. The "Snack Center" should:

   1. not made available for independent use by the children
   2. have nutritious snacks that follow the Dietary Guidelines
   3. be open any time of the day for the children
   4. have detailed instructions and rules for children to follow
   5. all of the above

13. Which of the following is a current dietary recommendation for children who are 2-4 years old?

1. decrease saturated fat intake by 2%
2. decrease protein intake by 3%
3. decrease carbohydrate intake by 6%
4. increase fat intake by 9%
5. slightly decrease sodium intake

14. Nutrition labeling is important because:

1. it may list optional nutrition information
2. it provides sodium information
3. it informs the consumer of important nutrient information
4. it provides information about number of calories and grams of protein, carbohydrate, fat, and sodium, listed in this order, in one serving
5. all of the above

15. Which of the following is likely to influence eating habits of young children?

1. shapes and textures of foods served at the table
2. parents
3. nutrition education
4. other children at the table
5. all of the above

THANK YOU!

N U T R I T I O N F O R C H I L D R E N

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Version		
1	2	3
Workshop ID:		

Exercise:____

Your Social Security Number:

_____-_____-_____

Today's Date: Mo/Day/Yr

_____/_____/_____

D I R E C T I O N S: Read each item carefully. For each item **CIRCLE** the number next to the **ONE BEST ANSWER.**

1. Which of the following statements is true?

   1. Nutrition labels must list name and place of business or the manufacturer, packer, or distributor.
   2. Nutrition labels must list the percentage of calories derived from fat.
   3. Ingredients are listed in order of amount present in food.
   4. 2 and 3
   5. All of the above

2. Which of the following equations is true?

   1. 1 cup of milk = 2 cups cottage cheese
   2. 1 cup soup = 1/2 cup macaroni and cheese
   3. 1 cup of juice = 1 medium apple
   4. 1 egg = 2-3 oz cooked fish
   5. 1 slice of bread = 1 hamburger bun

3. Which of the following is the most nutritious snack for a child?

   1. Oatmeal cookie and whole milk
   2. Peanut butter and soda crackers with fruit drink
   3. Graham crackers with honey butter and milk
   4. Ham sandwich with apple juice
   5. Chicken sandwich on whole wheat with orange juice

4. For school-age children, what is the number of daily servings recommended from the meat group?

   1. five
   2. four
   3. three
   4. two
   5. one

5. Which of the following describes the three major nutrition-related health problems of young children?

   1. Colds, diarrhea, and dental carries
   2. Iron-deficiency anemia, obesity, and dental carries
   3. Iron-deficiency anemia, bulimia, and obesity
   4. Anorexia, colds, and dental carries
   5. Anorexia, bulimia, and diarrhea

6. Which of the following terms are included in the USDA "Dietary Guidelines for Americans"?

   1. Avoid Too Much Fat, Saturated Fat, and Cholesterol 2. Maintain weight by choosing strict dietary regimens
   3. Exercise three times a week
   4. Eliminate sugar and sodium
   5. All of the above

7. According to the Bogalusa Heart Study what percentage of kilo calories from fats makes up a child's diet?

   1. 49%
   2. 39%
   3. 25%
   4. 15%
   5. 13%

8. The "Snack Center" should:

   1. have nutritious snacks that follow the Dietary Guidelines
   2. have detailed instructions and rules for children to follow
   3. not made available for independent use by the children
   4. be open any time of the day for the children
   5. all of the above

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9. Which of the following is likely to influence eating habits of young children?

1. other children at the table
2. parents
3. shapes and textures of foods served at the table
4. nutrition education
5. all of the above

10. Which of the following diet recommendations can reduce the risk of disease?

1. Eat less fat, control calories, increase starch-fiber, reduce sodium, and control alcohol
2. Increase starch-fiber, reduce cholesterol, increase calcium, reduce vitamin C, increase iron
3. Eat less fat, increase vitamin and mineral supplements, control calories, reduce sodium, reduce sugar
4. Increase starch and fiber, reduce sodium, increase iron, control alcohol, increase vitamin C
5. Eat less fat, increase Vitamin A, increase iron, reduce sodium, control alcohol

11. Which of the following is the "goal" for percentage of calories from fat in the American diet?

1. 55%
2. 37%
3. 30%
4. 20%
5. 15%

12. Which of the following statements is <u>not</u> true about diet and the risk of disease?

1. reduce sodium to decrease the risk of heart disease and stroke
2. control calories to reduce the risk of cancer, diabetes, and GI disease
3. reduce starch and fiber to decrease the risk of stroke, diabetes, and GI disease
4. eat less fat to decrease the risk of cancer, stroke, diabetes, and GI disease
5. eat more starch and fiber to decrease the risk of cancer, diabetes, and GI disease

13. Nutrition labeling is important because:

1. it provides information about number of calories and grams of protein, carbohydrate, fat, and sodium, listed in this order, in one serving
2. it informs the consumer of important nutrient information
3. it may list optional nutrition information
4. it provides sodium information
5. all of the above

14. Which of the following is a current dietary recommendation for children who are 2-4 years old?

1. increase fat intake by 9%
2. decrease carbohydrate intake by 6%
3. decrease protein intake by 3%
4. decrease saturated fat intake by 2%
5. slightly decrease sodium intake

15. The Nutrition Education and Training (NET) Lending Library Collection:

1. is a good resource to use when developing classroom activities to teach nutrition
2. restricts use of the materials to schools and child care centers
3. can only be used by persons who have attended NET workshops
4. charges a small fee for checking out materials
5. all of the above are correct

THANK YOU!

ATTITUDE SCALE

FOR NUTRITION FOR CHILDREN WORKSHOP

Please CIRCLE the number that best describes how you feel about each of the following statements.

		Strongly Disagree		Unsure		Strongly Agree
1.	If left alone, young children would instinctively eat what is good for them.	1	2	3	4	5
2.	Children are adequately nourished when they sample the Four Food Groups daily.	1	2	3	4	5
3.	Snacking spoils Children's appetites for good food.	1	2	3	4	5
4.	Food labels guide us in planning nutritious meals.	1	2	3	4	5
5.	Children do not get sick as often when they get appropriate nutrition.	1	2	3	4	5
6.	Ideally, puppets are used to entertain children between the times set for learning.	1	2	3	4	5
7.	If children participate in planning their own meals they are more likely to make appropriate food choices.	1	2	3	4	5
8.	Teachers do not need a library to teach young children good eating habits.	1	2	3	4	5
9.	The NET library is a good source of AV materials.	1	2	3	4	5
10.	"Dietary Guidelines for Americans" stresses the need to stick to the three meals menu and avoid snacking.	1	2	3	4	5

11.	"Dietary Guidelines for Americans" provides general dietary outlines that are not helpful in planning daily meals for children.	1	2	3	4	5
12.	"Dietary Guidelines for Americans" is a useful tool for teaching nutrition to children in grade K-3.	1	2	3	4	5

THANK YOU!

Texas Department of Human Resources

STAFF DEVELOPMENT AND TRAINING REPORT
SESSION INFORMATION

Form 4316
Page 3, Rev. 7-83

S.O. USE	
SESSION NO.	
Month	Series

EDUCATIONAL PACKET NO.				S.O. USE
Source	Target Group	Fiscal Yr.	Series	Module

DATES OF SESSION					
Begin Date			End Date		
Mo.	Day	Yr.	Mo.	Day	Yr.

Educational Packet Title	Content Taught By	Region

INSTRUCTIONS: For each item listed below, please CIRCLE the most appropriate number to reflect your evaluation.

6 ITEM	EVALUATION 1 Not At All	2 Somewhat	3 Well	4 Very Well	COMMENTS
1. Objectives were communicated:	1	2	3	4	
2. Instructor's presentation and manner helped you to meet the objectives:	1	2	3	4	
3. Instructor provided opportunity for discussion, comments, and questions:	1	2	3	4	
4. Course content helped you to meet the objectives:	1	2	3	4	
5. Handouts, audio-visuals, etc., helped you to meet the learning objectives:	1	2	3	4	

6. What part(s) of the session will be most helpful to you in doing your job?

7. What part(s) of the session will be least helpful to you in doing your job?

8. What suggestions do you have for improving this session?

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APPENDIX C

EVALUATION INSTRUMENT OF THE FOOD... EARLY CHOICES KIT STUDY

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FOOD... EARLY CHOICES KIT

OPINION SURVEY

Please circle the number next to the answer you choose, or enter your answer whenever appropriate.

General Information:

Your Social Security Number: _____

Type of Your Work Facility:
1. Public School
2. Private Grade School or High School
3. Child Care Center
4. Family Day Home
5. Residential Child Care Institution
6. Other (please specify): _____

Your Work (please circle one only):
1. Educator
2. Parent or Guardian
3. Family Day Home Provider
4. Other (please specify): _____

Years of Experience at Your Present Job: _____

Number of Children Under Your Care: _____

Age Range of Children: _____

==========

1. How many copies of the "Food... Early Choices" kit are there in your facility?

   _____ copies.

2. Have you ever used this kit with the children under your care?

   1. Yes 2. No

   If you answered "No", please skip to question 9.

3. Which version(s) of the kit do you usually use?

   1. English version
   2. Spanish version
   3. Both English and Spanish versions

4. Approximately how many times did you use each version?

Used English version _____ times.
Used Spanish version _____ times.

5. Which of the kit's components did you use, and how many times?

COMPONENT	NUMBER OF TIMES USED
Chef Combo puppet	_____
Learning Activity cards	_____
Spirit Master booklet	_____
Picture cards	_____
Puzzle cards	_____
Playing cards	_____
Where and How We Get Our Food booklet	_____
Growing-up poster	_____
Record	_____

6. How effective was each component in teaching nutrition to the children under your care?

COMPONENT	EFFECTIVENESS		
	Very Effective	Effective	Not Effective
Chef Combo puppet	1	2	3
Learning Activity cards	1	2	3
Spirit Master booklet	1	2	3
Picture cards	1	2	3
Puzzle cards	1	2	3
Playing cards	1	2	3
Where and How We Get Our Food booklet	1	2	3
Growing-up poster	1	2	3
Record	1	2	3

7. Did you use the kit and its components EXACTLY as suggested?

1. Yes 2. No

If you answered "No", please list the modifications you made?

KIT/COMPONENT	MODIFICATION(S)
_____	_____
_____	_____
_____	_____
_____	_____

(You may continue on the back of this page)

8. Did you encounter any problems connected with the kit while using it?

1. Yes 2. No
If you answered "Yes", please specify: _____

9. Did you need any skills or knowledge to use the kit that were not covered in the "Food... Early Choices" workshop?

1. Yes 2. No
If you answered "Yes", please specify: _____

10. What suggestions do you have that would make the kit a better/more useful tool to teach nutrition to children? _____

THANK YOU FOR YOUR HELP